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Moving beyond natural resources as a source of conflict:

Exploring the human-environment nexus of environmental peacebuilding

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Abstract
Despite their increasing prominence in both research and practice, the interlinkages between the biophysical environment and peacebuilding remain under-researched. While the literature identifies several mechanisms through which shared natural resources can function as catalysts for peace between conflicting parties, empirical evidence asserting a direct link between environmental cooperation and sustainable peace remains scarce. This dissertation examines environmental peacebuilding. It does so by providing a better theoretical understanding of the phenomenon through a literature review and two empirical case studies. In so doing, this dissertation provides much needed conceptual clarity as well as empirical evidence on environmental peacebuilding.

This dissertation is cumulative and consists of three research papers. The first paper deals with the building blocks of environmental peacebuilding and takes stock of the phenomenon. It proposes a coherent framework through which focus can be shifted from environmental conflicts to environmental cooperation and peace thereby also adding to the 'how' of environmental peacebuilding. The two case studies are based on qualitative methods. They explore how environmental peacebuilding unrolls in two different contexts, the Middle East and West Africa. With these two papers, this dissertation contributes empirical evidence to the environmental peacebuilding literature and fills gaps in the research, especially concerning the role of local communities and private actors in environmental peacebuilding processes.

Three main conclusions are reached in this dissertation. Firstly, that the same biophysical environment can be conceptualised differently in terms of conflict or peace depending on the standpoint and objectives of the actors involved and should therefore be envisioned largely as a social construct. Secondly, the dissertation highlights the need for broadening the notion of agency in environmental peacebuilding by focusing more on bottom-up approaches. Thirdly, it shows that a low-politics narrative is overrepresented in environmental peacebuilding research and practice. Therefore, the unintended impacts of environmental cooperation are at risk of being overlooked, especially when conflict and peacebuilding processes unfold in parallel and in contexts marked by power asymmetry.

Zusammenfassung
Trotz ihrer zunehmenden wissenschaftlichen und praktischen Bedeutung sind die Zusammenhänge zwischen Umwelt und Friedenskonsolidierung (engl. *peacebuilding*) noch wenig erforscht. Während in der Forschungsliteratur mehrere Möglichkeiten identifiziert werden, wie gemeinsam genutzte natürliche Ressourcen als Katalysatoren für den Frieden zwischen Konfliktparteien fungieren können, gibt es kaum empirische Belege für eine direkte Verbindung zwischen Umweltkooperation und nachhaltigem Frieden. Diese Dissertation untersucht umweltbezogene Friedenskonsolidierung (engl. *environmental peacebuilding*) und vertieft das theoretische Verständnis des Phänomens durch eine systematische Übersicht des Forschungsstands sowie zwei empirische Fallstudien. Auf diese Weise trägt die vorliegende Arbeit zur dringend benötigten konzeptionellen Schärfung und gleichzeitig zu einem empirisch fundierten Verständnis von Environmental Peacebuilding bei.

Die Dissertation ist kumulativ aufgebaut und besteht aus drei Forschungsarbeiten. Das erste Paper befasst sich mit den Bausteinen des Environmental Peacebuilding und nimmt eine Bestandsaufnahme des Phänomens vor. Es schlägt Wege und Möglichkeiten vor, wie der Fokus von Umweltkonflikten auf Umweltkooperation und Frieden verlagert werden kann. Die beiden Fallstudien basieren auf qualitativen Methoden und untersuchen, wie Environmental Peacebuilding in zwei unterschiedlichen Kontexten, dem Nahen Osten und Westafrika, abläuft. Mit diesen beiden Arbeiten leistet die Dissertation einen empirischen Beitrag zur Environmental-Peacebuilding-Forschung und schließt eklatante Forschungslücken insbesondere hinsichtlich der Rolle von lokalen Gemeinschaften und privaten Akteuren im Environmental Peacebuilding.

Drei wesentliche Schlussfolgerungen werden in dieser Dissertation gezogen. Zum einen kann ein und dieselbe Umwelt je nach Standpunkt und Zielsetzung der Akteure in Bezug auf Konflikt oder Frieden verschieden konzeptualisiert werden und sollte daher auch als soziales Konstrukt betrachtet werden. Zweitens beleuchtet die Dissertation die Notwendigkeit, das Verständnis von Handlungsspielräumen der beteiligten Akteure zu erweitern, und unterstreicht den Bedarf an weiterer Forschung zu Environmental Peacebuilding mit einer „Bottom-up"-Perspektive. Drittens wird gezeigt, dass „low politics"-Ansätze in der Forschung und Praxis zu Environmental Peacebuilding überrepräsentiert ist. Dieser einengende Fokus birgt jedoch die Gefahr, dass die unbeabsichtigten Auswirkungen von Umweltkooperationen übersehen werden, insbesondere wenn sich Konflikt- und Friedensprozesse parallel und in von Machtasymmetrie geprägten Kontexten entfalten.

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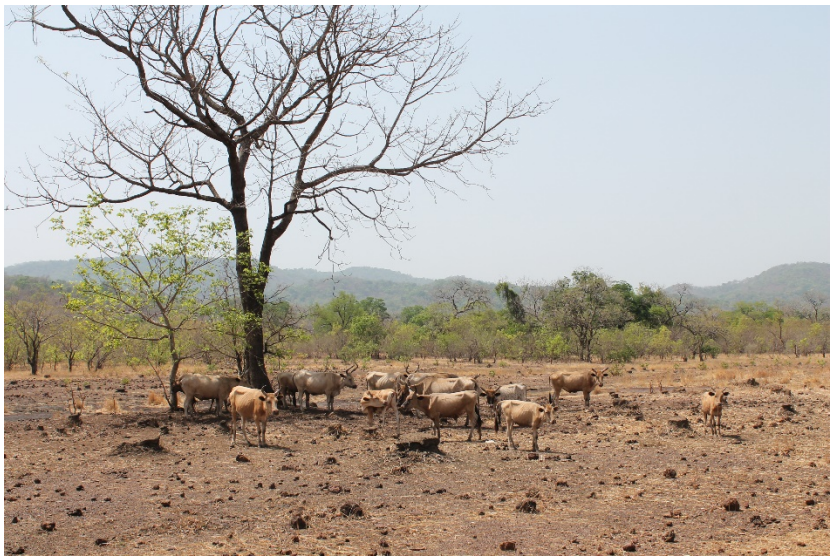
Chapter I
Introduction



Herd of cows near Boké, Guinea, April 2018

1. Introduction

1.1. From environmental security to peacebuilding

Demographic pressure, environmental degradation, and the depletion of renewable resources are often portrayed as main triggers for self-interested, sometimes violent competition between social groups around scarce natural resources (Baechler, 1999; Homer-Dixon 1999). In addition to scarcity, abundance is also presented as a security threat, with some natural resources constituting 'honey pots' that motivate and sustain violent conflicts between domestic groups and states (de Soysa, 2002). This so-called resource curse is found to be particularly prominent when the presence of high-value natural resources is combined with poverty and resource dependence (Boutilier, 2017; Collier and Hoeffler, 1998; Ross, 2015). In such contexts, the biophysical environment is presented as encouraging rent-seeking behaviours, weakening states and institutions, and promoting unequal resource distribution (Campbell, 2012; Collier and Hoeffler, 1998). Since the 1990s, the biophysical environment and natural resources have also been increasingly conceptualised in terms of national security, asserting the linkages between environmental stress and violent conflicts as well as a rhetoric of water and climate wars (Conca and Beevers, 2018; Matthew et al., 2009; Ross, 2015).

Environmental peacebuilding constitutes a paradigm shift concerning natural resources, moving towards a nexus of environment and peace rather than conflict. It can, for instance, take the shape of technical environmental cooperation to solve shared environmental problems (e.g. World Bank, 2014). It has also been shown to help establish dialogue and trust-building around shared natural resources such as water, or shared environmental concerns such as climate change adaptation (e.g. Harari and Roseman, 2008). Environmental peacebuilding can also support the development of joint systems for natural resource management, as seen in the case of trans-frontier parks and river basin commissions (Carius, 2006).

Environmental peacebuilding is not straightforward. Initiatives using shared environmental issues as an entry-point for cooperation and peace can weaken the legitimacy of state actors but also local and international organisations. For example, in Timor Leste, communities turned to the United Nations Transitional Administration in East Timor to take on critical tasks such as rehabilitation and freshwater access but failure to address these needs resulted in a weakening of legitimacy and trust in authorities (Ide, 2020). Environmental peacebuilding projects such as conservation programmes, peace parks, and nature reserves can also lead to displacement and exclusion of parts of local populations, thus adding to the root causes of violent conflicts rather than solving them, as will be shown in the case of Guinea in Chapter IV. Some environmental peacebuilding initiatives have also been found to encourage environmental degradation, as has been illustrated by transboundary water management that has led to a large increase in water consumption (Ide, 2020; JIIS, 2011). Finally, political agendas have been shown to hide behind seemingly neutral depoliticised cooperation, and thus, shore up existing power structures (Dresse et al., 2019).

The biophysical environment and its ecosystem services can thus be correlated with either conflict or peace, depending both on the setting and the definitions and variables on which researchers, practitioners or decision makers focus. How the biophysical environment is defined depends therefore on the socio-political and economic interactions that surround it – i.e. how it is used and articulated (Conca and Beevers, 2018). Evidence shows that,

consequently, the biophysical environment is rarely the sole cause of conflict or peace but can be a factor that interacts with other factors in framing the environment as either a source of conflict or peace (Maas et al., 2013; Ide, 2018). This situation means that it is difficult to trace the causal linkages leading from shared resources to violent conflicts on one side, and peacebuilding on the other.

Environmental peacebuilding has received increasing attention from scholars and practitioners alike over the last decade (e.g. Ide et al, 2021; Maas et al., 2013; Lujala and Rustad, 2012; Swain and Öjendal, 2018). Several researchers have explored the conceptual and practical linkages between shared environmental issues and peace (Conca and Dabelko, 2002; Carius, 2006; Ide, 2018; 2020), yet little systematic evidence exists concerning theoretical aspects of environmental peacebuilding, partly because an important part of the literature is practitioner-oriented (Conca and Beevers, 2018). Empirical research on how and if environmental peacebuilding works consists mainly of single case studies, many found in non-peer-reviewed publications (Johnson et al., 2021). These studies have been broadly inconclusive as to the positive or negative correlations between environmental challenges and peace (Ide, 2018). To improve this situation, cross-case comparisons are emerging (e.g. Ide, 2018; Johnson et al, 2021), as are more concentrated efforts to collect and compare insights from academic research (e.g. Ide et al, 2021; Swain and Öjendal, 2018). In addition, the focus in environmental peacebuilding research has been on international, post-conflict peacebuilding efforts at the regional or national level, along with the global agenda of key stakeholders such as the United Nations (Johnson et al., 2021).

Based on a comprehensive literature review, this dissertation contributes to the emerging empirical research on environmental peacebuilding. Environmental peacebuilding is empirically explored in two different contexts: An ongoing, protracted conflict using the case of Battir, West Bank (Chapter III), and latent, intrastate violence in the case of Boké, Guinea (Chapter IV). Through these two cases, environmental peacebuilding is studied as it plays out on the ground and at different scales, from top-down to bottom-up initiatives. The two case studies highlight how and why certain actors become involved in environmental peacebuilding and also illustrate the role of often overlooked actors in the environmental peacebuilding literature such as private companies and local communities. The two case studies are framed by a thorough theoretical contribution to the environmental peacebuilding literature (Chapter II).

1.2. Objective and research questions

The general objective of this dissertation is to explore the complexities of the human-environment nexus of environmental peacebuilding. It attempts to move beyond natural resources as a source of conflict and the focus on top-down, post-conflict and interstate environmental peacebuilding. Rather, it aims to better comprehend the linkages through which environmental cooperation in its various forms can contribute to building peace over time and at different scales.

The central question of this research is whether shared natural resources can indeed contribute to building sustainable peace and, if so, by whom and how this is achieved. Particular attention is given to the following questions:

- What are the different environmental pathways to peace in theory and practice?
- Around which types of natural resources and approaches to peace is environmental peacebuilding articulated?
- Who are the key actors involved directly and indirectly and how do they perceive the impact of environmental cooperation on peace?

This dissertation is a cumulative dissertation consisting of three independent academic journal articles that have either been published or are in review. The cumulative dissertation format was chosen for this project due to the need for published research on environmental peacebuilding, the study of disparate sites, the context-specific nature of the issue explored (see section 4 of this chapter), and the personal working conditions surrounding the dissertation. I am an international development practitioner and have been employed full-time throughout this PhD research. My professional experience and work placements have defined the geographical scope and nature of this research but have also represented an opportunity for long-term field exposure to different stakeholders. Indeed, I lived for several years in the places selected as case studies and interacted with a wide range of stakeholders during that time, leaving room for preliminary research to inform research planning and design.

To answer the questions introduced above, this research project started with a discussion paper.[1] This publication provided a comprehensive review of the environmental peacebuilding literature but is not included in this dissertation as it largely served as a basis for Chapter II.

Following an introduction (Chapter I) and the conceptual review of the linkages between environmental conflicts, cooperation, and peacebuilding in the literature (Chapter II), the dissertation moves to an in-depth study of selected case studies (Chapters III and IV), before concluding with some final remarks (Chapter V):

- Conceptual review paper published in a peer-reviewed journal:

  Chapter II: Anaïs Dresse, Itay Fischhendler, Jonas Ø. Nielsen, and Dimitrios Zikos. (2019) Environmental peacebuilding: Towards a theoretical framework. Cooperation and Conflict 54(1): 99-119.

[1] Dresse A, Nielsen JØ and Zikos D. (2016) Moving beyond natural resources as a source of conflict: Exploring the human-environment nexus of environmental peacebuilding. THESys Discussion Paper 2. Berlin: Humboldt-Universität zu Berlin.

- Research articles submitted for publication in international peer-reviewed journals:

  Chapter III: Anaïs Dresse and Jonas Ø. Nielsen. The power of the local in environmental peacebuilding. In review for publication in *Third World Quarterly*.

  Chapter IV: Anaïs Dresse, Jonas Ø. Nielsen, and Itay Fischhendler. From corporate social responsibility to environmental peacebuilding: The case of bauxite mining in Guinea. In review for publication in *Resources Policy*.

- **Chapter V:** Finally, the main conclusions and future research paths are rounded up in a synthesis chapter.

2. Empirical setting

Chapters III and IV consist of case studies, respectively set in the Middle East and West Africa. Detailed contextual information and background on each case is given in these chapters. This section aims at providing a more general overview of each case study region and country. It will provide a summary of relevant background information. The two sites are very different, not only geographically but also concerning the natural resources that fuel local conflicts – namely land and high-value resources – and the environmental cooperation and peacebuilding initiatives that occur in response to these. The fact that they offer very different contexts for researching environmental peacebuilding is a strength and something I will reflect upon in Chapter V. While environmental peacebuilding has been broadly implemented and researched in the case of the Israeli-Palestinian conflict, it is under-examined on the African continent, and especially West Africa. There, most studies have focused on the role of natural resources in the Sierra Leonian and Liberian civil wars and their resolutions (e.g. Ankenbrand et al., 2021; Brown et al., 2012; Johnson et al., 2021; Le Billon and Levin, 2009). Yet, both cases also present similarities, such as the close ties between the biophysical and human environments and the interlinkages between actors at different scales, and with various levels of power and interests, in environmental cooperation issues.

2.1. Battir

In this section, I begin by introducing the geographical setting of the case study of Battir before outlining the socio-political background framing the case study. After this, I focus on environmental cooperation and resistance in Battir following the Oslo Peace Process.

2.1.1. Geographical setting

The State of Palestine is composed of the West Bank and Gaza Strip, and is also referred to as the Occupied Palestinian Territories.[2] The village of Battir is located in the Bethlehem Governorate, a few kilometres away from the city of Jerusalem in the southeast of the West Bank, and is delimited to the north by the 1949 Armistice Line with Israel.

The village lies within the Al-Makhrour, a system of agricultural valleys irrigated by natural springs. Its agricultural lands stretch along the valley and across the 1949 Armistice Line. The village of Battir is characterised by an ancient Roman pool and irrigation system, as well as dry-stone agricultural terraces that slope all the way down from the village into the valley. Battiris grow vegetables and herbs throughout the year on these terraces, and the village is best known for its eggplants, vines, and olive trees, among other local agricultural produce. Besides, many sites of archeologic interest can be found in the village's surroundings, such as several Roman-era settlements remains (khirab), agricultural watchtowers and olive presses (MoTA, 2013).

Like many Palestinian villages, Battir suffers from a lack of water, especially during the hot summer months, and has no public sewage network to dispose of wastewater, a situation that has caused health problems as well as pollution issues (ARIJ, 2010).

[2] This dissertation uses the official United Nations terminology. Designations are not to be seen as a political statement.

Map I-1: Map of Israel and Palestine (Own map)

2.1.2. Socio-political setting

At the end of the British Mandate of Palestine, the United Nations partition plan of the British Mandate into a Jewish and an Arab state (United Nations Resolution 181) was rejected by Arab parties. The establishment of the State of Israel was declared in May 1948, resulting in the exodus of numerous Palestinians from their lands.

Ever since the Arab–Israeli war of 1948–49 and the subsequent 1949 Armistice Agreements signed between Israel and neighbouring countries (Egypt, Lebanon, Jordan, and Syria), the conflict between Israel and neighbouring states has been protracted and marked by recurring episodes of acute violence as well as interludes of latent violence and localised fighting. During the 1967 Six-Day War, Israel annexed the Old City of Jerusalem, the West Bank, and the Gaza Strip, along with the Golan Heights and the Sinai Peninsula.

Besides state-led violence, Palestinian popular uprisings, known as 'Intifadas', have taken place between 1987–1991 and 2000–2005. The first Intifada ended when the Oslo Accords were signed in August 1993 and resulted in the creation of the Palestinian National Authority. The 1995 Oslo II Accord (Oslo Interim Agreement) signed between the Israeli government and the Palestinian National Authority, delimited the West Bank in areas A (under full Palestinian Authority control), B (mixed control) and C (full control by the Israeli government) – in effect isolating in many West Bank villages from each other. 23.7 percent of the lands of Battir were categorised into area B, while the remaining 76.3 percent were classified into area C. Concretely, this prevents Palestinians from building any structures without permits from the Israeli civilian administration in Bethlehem (ARIJ, 2010). Dissatisfaction following the lack of results of the Oslo process sparked the onset of the second Palestinian Intifada in 2000. An

extensive control system, consisting of walls,[3] fences, bypass roads, checkpoints, roadblocks, and security cameras, was developed by the Israeli Defense Forces. The separation wall, which would block human exchanges between Israelis and Palestinians but also divide ecologic corridors and negatively affecting the local fauna and flora, was planned to be built in Battir but its construction was prevented for reasons explained below (UNEP, 2003; Abdallah and Swaileh, 2011).

The Oslo process nevertheless sparked hope, and peacebuilding efforts increased, with many people-to-people initiatives aimed at stimulating interpersonal dialogue and trust. Several environmental cooperation projects were also implemented in the Middle East region with the explicit aim of improving Israeli-Palestinian relations, such as the regional non-governmental organisation (NGO) EcoPeace (see Chapter III). Hence, much of the literature researching environmental peacebuilding in this context focuses on this region (e.g. Ide et al., 2018; Jägerskog, 2013). This research often emphasises the opportunities rather than the limitations of the environment-peace nexus in such a protracted, asymmetric conflict situation (Conca and Beevers, 2018). Chapter III takes an in-depth look at bottom-up environmental cooperation and peace in the case of Battir, including limitations.

The village of Battir is located in the so-called area of 'frontline villages' in the West Bank. Many of these villages lost lands to Israel' during the 1948–1949 war, such as the neighbouring village of Al-Walaja. As many Palestinians, the inhabitants of Battir were expelled from their lands as a result of the 1948 war. However, they never fully left the village and managed a complete return to Battir shortly after under the leadership of a local leader named Hassan Mustapha, who negotiated access to agricultural lands with the Armistice Commission, vowing in exchange to safeguard the passenger train crossing their lands on its way from Jerusalem to Tel Aviv-Yafo (MoTA, 2013).

With a population of around 5,000 inhabitants divided into 798 households stemming from eight historical families (ARIJ, 2010), Battir is characterised by a high education rate, as 37.6% completed secondary education or higher (PCBS, 2009). For the oldest inhabitants, this can be explained by the village's international exposure due to the Ottoman railway stopping in the valley of the village. Trains used to halt at the Battir railway station, and passengers used to buy vegetables from farmers who would also hop on to sell their products on the Jerusalem market. This stopped with the 1967 Six-Day War, which marked the beginning of the Israeli military occupation in the West Bank and Gaza Strip. Once the vegetable basket of Jerusalem, Battir's agricultural production is now mainly used for self-consumption or sold locally. To date, most inhabitants remain involved in maintaining the terraced lands not only in order to feed themselves or for their economic potential, but also because agriculture is seen as a social activity which families practice together (see Chapter III).

[3] The walled portions of this enterprise are referred to as separation wall in this dissertation, aligning with language used by the United Nations General Assembly, but other terms commonly used include 'barrier' (United Nations Secretary-General) or 'fence' (Israel) (ICJ, 2004).

2.1.3. Environmental cooperation or resistance?

In the early 2000s, Battir, like many other villages along the Green Line, was put at risk by the route of the separation wall planned by the Israeli Defense Forces. The village's authorities and residents opposed this during a lengthy Court process in front of the Israeli High Court of Justice, as will be detailed in Chapter III. Battiri residents were represented by a Palestinian-Israeli lawyer, and later supported by a second Israeli lawyer provided through the regional organisation EcoPeace. Audiences were repeatedly postponed until EcoPeace, together with Israeli residents from the neighbouring village of Tsur Hadassah, submitted a petition opposing the planned route of the wall in 2012. The petition was also backed by the Israeli Nature and Parks Authority, constituting an unprecedented case of opposition by another State body to the Israeli Defense Forces in front of the Israeli High Court of Justice (Wessels, 2016). Residents from the neighbouring settlement of Beitar Illit also separately filed a petition against this portion of the wall.

In parallel, local and international experts started collecting data on Battir's cultural and natural landscape to inscribe the site on the UNESCO List of World Heritage Sites. The nomination of the valley surrounding Battir in June 2014 as a World Heritage in Danger due to the impacts of the Israeli occupation asserted its global value (MoTA, 2013). Waging environmental and cultural arguments, military plans were frozen in the valley after the decision by the Israeli High Court of Justice in January 2015. Instead of a physical barrier, alternative 'soft' security measures such as surveillance cameras and a military patrol were positioned along the train track.

2.2. Boké

In the following section, I focus on the geographical and socio-political settings of the case study of Boké. After detailing the context, marked by the explosion of bauxite mining throughout the region and its social and environmental consequences on the human and biophysical environments, I review the opportunities and challenges represented by such high-value natural resources for the Guinean population.

2.2.1. Geographical setting

The Republic of Guinea is a West-African country located along the Atlantic coast, between Senegal and Guinea-Bissau to the north and northwest, Mali to the northeast, Sierra Leone, Liberia, and Côte d'Ivoire to the south and southeast. The country is divided into four geographic regions: Lower Guinea along the coast, where the national capital Conakry is located, the Fouta Djallon to the northwest, Upper Guinea to the northeast, and Forested Guinea (southeast). The region of Boké is in Lower Guinea and today counts well over 1 million inhabitants (INS, 2017). The city of Boké is located 227 km west of the capital, Conakry, towards the border with Guinea-Bissau. It is built along the Nunez river (Rio Nuñez) which streams down to the Atlantic Ocean.

Bauxite is the principal ore of aluminium and can be found from the country's coastal areas to its midland (Knierzinger, 2017). The region of Boké is located at the heart of Guinea's Bauxitic Belt, spanning from the port city of Kamsar to the mining town of Sangarédi. Besides, the country is rich in other high-value natural resources such as gold (mostly in Upper Guinea), but also iron ore (one of the largest reserves is located on the Simandou mountain) and diamonds in the Banankoro area in Forest Guinea. Annuity products such as coffee, cacao, groundnut, palm oil and rubber can also be found throughout the country's arable lands.

The region of Boké is an 'environmental hotspot' hosting endangered species such as the West African chimpanzee (UNEP, 2008). This biologically rich ecosystem has recently been put under pressure by the bauxite boom. Indeed, this causes an increase in infrastructures such as roads and dams, as well as increased demographic pressure. Bauxite mining also causes heavy air, water and soil pollution due to the impact of dust and red mud on surface and groundwater quality, as well as vibrations that drive the local fauna away (Gardner, 2001; Knierzinger, 2017; UNEP 2008).

Map I-2: Administrative boundaries of Guinea (Own map)

2.2.2. Socio-political setting

Following its independence from French colonial rule in 1958, Guinea was ruled by President Sékou Touré until his death in March 1984. A military coup by Colonel Lansana Conté followed in April 1984, and his regime took over until 2008. The current President, Alpha Condé, was first elected in 2010 and re-elected for a third term in 2020. During the civil wars in Sierra Leone and Liberia in the 1990s and early 2000s, Guinea hosted hundreds of thousands of refugees from these neighbouring countries, leading to some tensions.

Estimated at around 12.8 million people, the Guinean population is very young with 5.5 million children aged between 0 and 14 (World Bank, 2019). The country's economy mostly relies on smallholder agriculture, as well as a large informal sector that is characterised by low incomes. Besides agriculture, the extractive sector holds a central place in the Guinean economy. Nearly one third of the state's revenues are derived from mining, 75 percent of which are from bauxite and the rest from gold and other extractives (ITIE, 2019; Knierzinger, 2017). Indeed, Guinea is the world's largest bauxite reserve and accounts for 50 percent of aluminium ore exports globally (OEC, 2018). In 2018, aluminium ore constituted 43.8 percent of all Guinean exports, coming second after gold (48.4 percent) (OEC, 2018). Over three-fourths of Guinea's bauxite is exported to China, while 81.4 percent of its gold is exported to the United Arab Emirates.

With more than a dozen bauxite extraction projects currently operating in and around Boké, and many more projects under exploration, the total revenue from the Guinean extractive sector was estimated at about 505 million USD in 2017 (ITIE, 2019). The oldest bauxite mining company present in Guinea, the Compagnie des Bauxites de Guinea (CBG), was created in the 1970s and is a major contributor to the State's budget. The Russian company Rusal also runs mining projects in Boké, as well as neighbouring regions, and operated the country's only

alumina refinery in Fria until its closure in 2012 (Knierzinger, 2017). Several other mining projects continue to quickly expand in the region of Boké and are led by various investors (e.g. French, Emirati, Chinese), some with funding from the International Finance Corporation (IFC), the World Bank Group's private sector arm (ITIE, 2019). Such mining projects are required to respect a number of environmental and social standards according to national legislation and international norms, such as the IFC's Performance Standards on Environmental and Social Sustainability and the Equator Principles. However, few companies fully comply with these standards and the Guinean government lacks the capacity to develop and enforce the national legislation, as will be detailed in the next section and Chapter IV.

2.2.3. Bauxite as a resource curse or blessing?

Although rich in natural resources, the Guinean population remains one of the poorest in the world, making it an example of a country afflicted by the so-called 'resource curse' (Wilhelm, 2020). Guinea has a GDP of 10.3 billion USD (World Bank, 2019) and ranks 178th in terms of human development (UNDP, 2018). Although the extractive sector represented 15% of the country's total GDP in 2017, only 0.4% of the work force is employed within the sector (ITIE, 2019), despite local policies aimed at stimulating the employment of Guinean nationals (Wilhelm, 2020). Moreover, the economy suffers from corruption and tax evasion (HRW, 2018). There is thus little redistribution of mining revenues to local communities who pay the highest social and environmental price for mining projects affecting their habitat (HRW, 2018). As a result, mining areas are marked by localised violent conflicts, in the bauxitic region of Boké but also the gold mining areas surrounding Siguiri (Raleigh et al., 2010).

Compared to other regions, Western Africa has received little attention in the environmental peacebuilding literature, with the exception of Sierra Leone and Liberia (e.g. Ankenbrand et al., 2021; Beevers, 2015; Brown et al., 2012). In Guinea, peacebuilding committees were set up by the Ministry of Mines and Geology with the support of international partners to mitigate the occurrence and scale of mining conflicts. Yet, as will be detailed in Chapter IV, these have had a limited impact due to low institutional capacity, while other measures implemented directly by mining companies in the framework of Corporate Social Responsibility (CSR) may have a more promising impact concerning environmental cooperation.

3. Theory

In this section, I start by defining the term 'environmental peacebuilding' and related concepts. I then explore how these are researched in the existing case study literature on environmental peacebuilding, before addressing the main gaps identified based on this review. These will be detailed, focusing on who the actors of environmental peacebuilding are, what natural resources are targeted, and how exactly natural resources and environmental cooperation are expected to contribute to peacebuilding rather than exacerbate conflicts.

3.1. Defining environmental peacebuilding

Peacebuilding is one of three approaches to peace, alongside peacekeeping and peacemaking (Galtung, 1976). It refers to various types of initiatives that can contribute to building durable peace and reconciliation between (former) conflict parties. It does so by transforming relationships through an inclusive approach that addresses the root-causes of violent conflicts (Galtung, 1976). In contrast, peacekeeping corresponds to activities mainly aimed at maintaining ceasefires, while peacemaking, is characterised by diplomatic and political negotiations or military actions aimed at ending a conflict. The concept has evolved from initially being coined as 'environmental peacemaking' (e.g. Conca and Dabelko, 2002; Carius, 2006) towards the more comprehensive approach of environmental peacebuilding, in line with the just mentioned definitions.

The bulk of the literature on environmental peacebuilding focuses on post-conflict peacebuilding (Dabelko, 2006; Matthew et al., 2009). This neglects the fact that cooperation and conflict often coexist at different stages (Mac Ginty, 2010; Zeitoun and Mirumachi, 2008). Indeed, peace does not only consist of the absence of violence, but rather of a spectrum ranging from negative peace, defined as the absence of conflict understood as direct violence, to positive peace, defined as the elimination of all forms of violence, including structural violence (Galtung, 1967). Positive peace thus does not only refer to the elimination of all conflicts. Instead, it strives towards the achievement of an equitable society where conflicts are solved non-violently. Only then can conflicts contribute positively to necessary societal change (Galtung, 1967). In the case of the protracted conflict between Israelis and Palestinians, peacebuilding efforts have for instance been implemented since the mid-nineties in the hope of decreasing tensions and ultimately solving the conflict, a point I will return to in more detail in Chapter III. Consequently, research has broadened to include environmental peacebuilding efforts at all conflict stages (Dresse et al., 2016; Ide et al., 2021).

As mentioned in the introduction, environmental peacebuilding represents a paradigm shift away from an environment-conflict nexus (e.g. Homer-Dixon, 1999; Ross, 2015). The environmental peacebuilding literature presents environmental interdependencies as a potential entry point for cooperation, trust-building and even reconciliation, between (potential or former) conflict parties (Conca, 2002; Ide, 2019). A shared biophysical environment has indeed been shown to be an opportunity for peacebuilding at all stages of a conflict, from prevention, to mediation, through peacekeeping, to peacebuilding (Conca and Beevers, 2018). Environmental peacebuilding encompasses a wide range of understandings, approaches, actors, and activities. Grouping these is a major contribution of this dissertation (Chapter II).

Four general trajectories or pathways through which shared environmental challenges can contribute to peacebuilding are identified in the literature. Firstly, environmental peacebuilding

can address cooperation that can solve issues related to environmental degradation and therefore counter environmental conflicts. In contrast to environmental security framings, which pushed natural resource-related issues into the sphere of governance, this technocratic approach often focuses on low-politics routes, which can limit it in terms of mobilising decision-makers and fostering sustainable peace (Carius, 2006; Conca and Beevers, 2018). Secondly, environmental peacebuilding can promote dialogue between parties and develop trust by decreasing uncertainties. For instance, NGOs like EcoPeace Middle East organise training for environmentalists from Israel, Jordan, and Palestine. During this training, participants discuss not only technical issues, such as conservation or ecotourism, but also their daily lives and visions of peace. Thirdly, environmental peacebuilding can revolve around the joint management of natural resources and develop shared regional identities that span beyond territorial borders to encompass ecological boundaries (Conca and Beevers, 2018). Finally, the level of institutionalisation of such initiatives can be an indicator of their durability and impact on lasting peace, often with the involvement and support of decision makers (Ide, 2019). Such cooperation, albeit initially limited to environmental issues, is expected to contribute to broader peacebuilding by spilling over into other sectors of cooperation (Carius, 2006; Ide, 2018). This is facilitated by the interconnectedness of environmental issues with other areas such as health, justice, and livelihoods. How exactly shared natural resources and environmental cooperation are expected to lead to peacebuilding is detailed in Chapter II, which reviews the building blocks (namely the conditions, mechanisms, and outcomes) and main pathways summarised above.

3.2. Case study literature

Building theory and collecting evidence on the environment-peace nexus, or environmental peacebuilding, is challenging due to its highly contextual nature. Indeed, in any case of environmental peacebuilding a heterogeneity of perceptions of environmental peacebuilding coexists, making it a highly temporal and spatialised phenomenon. Moreover, a diversity of actors, from international, governmental, and non-governmental organisations to local leaders and communities (Johnson et al., 2021) interact in concrete cases of environmental peacebuilding and contribute to a mix of understandings, motivations and approaches concerning peacebuilding. Whether a shared resource acts as a conflict irritant or peace catalyst and, for instance, which natural resource is viewed as key for the security of the state or not, depends therefore on how socio-environmental interactions are socially constructed in a given context (Conca and Beevers, 2018).

Despite a growing body of research on environmental peacebuilding, including empirical studies, the literature focusing on the role of local communities and how environmental peacebuilding plays out ‘on the ground’ remains scattered (Conca and Beevers, 2018; Johnson et al., 2021). This dissertation expands and systematises this body of literature by providing a framework (Chapter II) and two case studies that focus on the on-the-ground actors of environmental peacebuilding (Chapter III and IV). Local communities are the most exposed to conflict-driven ecological damage (Maldonado and Martinez, 2016). They are also central actors in post-conflict reconciliation and peacebuilding, especially where state structures have been weakened by conflicts and strong local institutions exist (Burt and Keiru, 2011; Miyazawa, 2013). Private actors such as companies are also underrepresented in the environmental peacebuilding literature. Yet they can play a central role in sustaining conflict

and environmental degradation or stimulate recovery and development, as will be explored in Chapter IV.

A review of environmental peacebuilding case studies, mainly focused on the local scale, shows that intrastate conflict and cooperation is the main concern within this literature. This contrasts with the predominant focus on interstate conflicts and regional environmental cooperation in environmental peacebuilding research (Chapagain and Sanio, 2012). Case studies at the local level were also generally found to have a broader definition of violence than existing environmental peacebuilding research, leaving more room for structural forms of violence that is linked, for instance, to unequal resource distribution (Chapagain and Sanio, 2012). Some existing case studies also address the role of local communities in peacebuilding, either through traditional natural resource management (NRM) systems or state-led participative NRM initiatives with strong local participation. Indeed, many case studies focus on one or more local communities and introduce traditional or more recent, state- or NGO-led NRM systems with strong local participation (see Table I-1). Research at this scale thus highlights new elements to expand our current knowledge of environmental peacebuilding.

COUNTRIES/ TERRITORIES	EXAMPLE OF NRM SYSTEMS	MAIN ISSUE	INITIATOR	AUTHOR/SOURCE
COLOMBIA	Indigenous strategies for protecting culture and territory	Conflict management /biodiversity	Local communities	Maldonado and Martinez, 2016
TIMOR LESTE	Tara Bandu system	Customary law	Local communities	Miyazawa, 2013
NEPAL	Micro-hydropower development projects	Electricity	State-led	Krampe, 2018
ISRAEL/JORDAN/ PALESTINE	Good Water Neighbours (GWN)	Water management	Regional NGO	Djernaes et al., 2015; Harari, 2008; Ide, 2017
IRAQ	Ancient kahrez systems rehabilitation	Water management	Local communities	Moosa, 2018
SIERRA LEONE	Diamond Area Community Development Fund	Extractives	State-led	Maconachie, 2010
GHANA	Herders-farmers traditional cooperation	Climate change	Local communities	Bukari et al., 2018

Table I-1: Examples of local NRM systems impacting peacebuilding

The lack of cross-case comparison and systematic reviews of how environmental peacebuilding unrolls at the subnational or local level can be explained by the multiplicity of contexts in which the phenomenon plays out. This makes it difficult to compare across cases, but also to assess the linkages between cooperation, peace and the biophysical environment since many other elements can impact this outcome. The practical obstacles to conducting research in conflict and post-conflict settings also limit case studies on environmental peacebuilding in dangerous contexts (Maldonado and Martinez, 2016).

Despite these challenges, some cumulative knowledge has emerged from the case study literature on environmental peacebuilding, and some cross-case comparisons have been realised using techniques such as qualitative comparative analysis (QCA) (e.g. Ide, 2018; Johnson et al., 2021). Such research highlights the risks of presenting environmental peacebuilding as neutral and apolitical and points to the need for further insights from other fields such as political ecology (Conca and Beevers, 2018; Ide, 2020; Jägerskog, 2013). Dialogue and cooperation between conflict parties can be enabled by framing environmental issues as 'low politics' in contrast to 'high politics', or around issues vital for a state's survival (Coskun, 2009; Dresse et al., 2019; Ide, 2019). However, and as is made especially clear in Chapter III, this is not the same as concluding that environmental peacebuilding is a depoliticised approach to shared natural resources and environmental cooperation.

While focusing on immediate needs rather than people's rights can be presented as desirable, doing so can have adverse effects on peace and, for instance, institutionalise the unequal distribution of resources in favour of the most powerful (Aggestam, 2015; Krampe, 2017; Zeitoun and Allan, 2008). Keeping this in mind, the present research takes a more critical position concerning environmental peacebuilding than is often the case (e.g. Harari, 2008; Jensen, 2012; Matthew et al., 2009). The same environmental issue can, depending on the context, the actors, and the projects, constitute either low or high politics, or be interpreted in either way. Thus, how actors at different scales perceive environmental peacebuilding has an impact on the peace outcome of such initiatives (Conca and Beevers, 2018). The next section outlines the different types of natural resources at stake in the environmental peacebuilding literature and practice.

3.3. What environment?

Environmental peacebuilding research envisions shared environmental issues and natural resources as a 'common language' through which opposing agendas between conflicting parties that share these resources can be reconciled (Carius, 2006; Conca and Beevers, 2018). Yet, multiple framings exist of the same environment or natural resource in which different values can be vested depending on the scale of analysis. A soil rich in bauxite might for instance constitute an economic potential for mining companies and state authorities but be a highly spiritual site for local residents if it is near a water source or a cemetery, as will be shown in the case of Boké (Chapter IV). The biophysical environment thus has a wide range of material and immaterial values for human survival (e.g. by providing food and income), but also has value in terms of identity. The different perceptions coexisting in a shared biophysical environment can constitute a challenge to the systematic study of environmental peacebuilding and can also pose a problem for conducting cross-case analyses. Yet, this issue has been somewhat simplified or overlooked in the environmental peacebuilding literature (Ide, 2020; Waisova, 2015).

The resource curse literature highlights the fact that some natural resources, especially high-value ones such as metals, minerals, gemstones and fuels, act as catalysts of competition and conflict (Boutilier, 2017; Collier and Hoeffler, 1998; Homer-Dixon, 1999; Ross, 2015). While natural resources are rarely the only conflict cause, they can thus constitute 'honey pots', fuelling violence, mistrust, and environmental degradation (Boutilier, 2017; Brown et al., 2012; de Soysa, 2002*)*. In contrast, other environmental issues or challenges such as water or climate change are seen as less fraught and more conducive to cooperation due to their low political profiles (Wolf, 2007). Environmental peacebuilding research thus tends to revolve around environmental issues that are desecuritised and that can be used as non-frictional entry-points for dialogue (Ide, 2018).

The discussion around environmental peacebuilding is also shaped by the focus on liberal approaches to peacebuilding (Mac Ginty, 2012; Richmond, 2006; Selby, 2013a), as illustrated by the emphasis on win-win benefits that can be drawn from environmental cooperation in the literature (Dombrowsky, 2009; Fischhendler et al., 2011). Critics point out liberal peacebuilding's failure to deliver a peace dividend and positively impact everyday life for most people (Krampe, 2013; Richmond, 2009). Recent case studies have highlighted the cultural and socio-political dimensions of local ecosystems on which communities rely for their daily lives (e.g. Maldonado and Martinez, 2016; Miyazawa, 2013; Moosa, 2018). Beyond their ecological and economic value, natural resources thus embody a wide range of values for different stakeholders, especially at the local level. Natural resources and landscapes can, for instance, be associated with historic, educational, and aesthetic values, as is the case of Battir's cultural and natural landscape (Ramsay, 2015; Wessels, 2016). These multiple dimensions are given little attention in the environmental peacebuilding literature (Green, 2015; Maconachie, 2010) and thereby downplay the interlinkages between the biophysical and human environment.

4. Methodology

Based on the research questions and the identified literature gaps concerning environmental peacebuilding, a qualitative case study approach was determined to be the best methodology. As the PhD project developed, and Chapter II was published, case study research was also seen to best complement the conceptual and theoretical review done in Chapter II.

4.1. Case study methodology

Case studies consist of in-depth studies of a social phenomenon (Gerring, 2006; Yin, 2014). They are best suited to addressing explanatory why and how questions that aim to document contemporary (with the research) events, places, and practices, as well as track developments over time (Yin, 2014). This type of empirical enquiry, realised within a *contemporary*, real world context, is particularly relevant when the boundaries between a social phenomenon and its contextual conditions are blurred (Yin, 2014). As such, case study research is a holistic approach to research, aimed at providing insights into the interplay between human actions and contexts (Gerring, 2006). Environmental factors, especially at the local level, are often the result of a complex interplay between their biophysical, socio-political, economic, and historical dependence on context. As detailed in the previous section, understanding how actors at different scales define the environment, but also conflict and peace, is a key challenge that is related to environmental peacebuilding research. Case studies are central to forming this understanding.

Case studies differ from other methodologies, such as surveys or experiments, as they are not variable-based and the researcher has little control or influence over the studied phenomenon and context. Case studies are typically adapted to research questions that focus on how and/or why a phenomenon occurs as it does in a defined context (Flyvberg, 2006). The methodology is usually based on a literature review and requires comprehensive field work to enable detailed information of the object under study within its context. It often involves the use of mixed methods (Bryman, 2012). The analytical strategies used can be comprised of a single-case analysis or cross-case comparisons (Baxter, 2010). Within an individual case, case studies can consist of a temporal comparison or be place-oriented and observe the spatial variation between individual units to explain a phenomenon (Gerring, 2006).

Common misconceptions about case study research include the assumption that one cannot generalise findings based on the in-depth examination of an individual case and that, consequently, case studies are better suited to testing hypotheses than to building theoretical knowledge (Flyvberg, 2006). However, case studies are also valuable for theory building (Baxter, 2010; Flyvberg, 2006). Besides, case study research, if well designed and planned, is no more subjective (another common critique) than large sample methodologies where the selection of variables constitute as much of a bias (Flyvberg, 2006). In fact, the sampling frame of case studies is not limited to N=1 but can consist of a small- or large-N as several units of observation can be analysed within one case depending on the research design.

This dissertation consists of two individual case studies (Battir and Boké) detailed in Chapters III and IV. These cases were selected as they offer different standpoints on how environmental peacebuilding can play out at the local scale, and thus provide insights from different perspectives to explain, describe, test, and develop environmental peacebuilding as a theoretical and practical framework. Pragmatic issues related to my places of work were also

an influencing factor, as is often the case when case study research is applied (Bryman, 2012; Gerring, 2006). Both are based on an extensive review of the literature on environmental peacebuilding presented in Chapter II and explore the same social phenomenon (environmental peacebuilding) in two different settings: respectively West Africa and the Middle East. As we have seen in the previous section, bottom-up environmental peacebuilding is often forgotten in the literature. By focusing on different groups of actors involved in environmental cooperation at the local level in a real-world context, this research contributes to filling a gap in the environmental peacebuilding literature and develops our theoretical understanding of this phenomenon by looking at under-studied aspects or research gaps. Both case studies are explanatory in nature, as they seek to establish the underlying linkages between environmental cooperation and peace. The case of Boké also explores Corporate Social Responsibility and its potential contributions to the more recent field of environmental peacebuilding. While no cross-case analysis is done outside of the key findings highlighted in the conclusion of this dissertation, the cases of Battir and Boké constitute valuable theoretical contributions by examining 'bottom-up' environmental peacebuilding in the context of ongoing conflicts. As such, the two cases explored in this dissertation respond directly to gaps in the environmental peacebuilding literature (Baxter, 2010; Conca and Beevers, 2018; Lund, 2014).

4.2. Methods

This section details the different methods used to collect qualitative data during field work. More detailed methodological information is also available in the case studies presented in Chapters III and IV of this dissertation.

4.2.1. Interviews

The main data collection method used to build the case studies presented in Chapters III and IV of this dissertation is semi-structured interviews (Bryman, 2012). These have the advantage of being more flexible than structured interviews and leave space for interviewees to explore topics outside of those planned by the researcher, while remaining systematically organised according to a set framework (Gerring, 2006). A total of 56 interviews were conducted (32 for the Battir case study and 24 for the Boké case study) with a total of 72 interviewees (respectively 43 and 29 people). In Battir, interviews (excluding preliminary interviews done in early 2016) were conducted between December, 2016 and February, 2017, while in Conakry and Boké, they started in March, 2018 and ended in June, 2019. The presence of more than one interviewee during certain interviews is due to the fact that, in Battir, interviews were often conducted at families' homes where more than one person was often present. In Guinea, some interviews were done with several experts from the same organisation (the interview guides are available in Appendix 2). As no full-time assistant was used in the field to facilitate access, reference persons were my main entry points into the communities studied.

Case study and period	Informant type	Location(s)	Number of interviews	Number of people	Themes
Battir (Dec. 2016–Feb. 2017)	Local residents	Battir	19	30	Peace, Environmental cooperation
	Palestinians involved in Battir	Battir, Bethlehem, Jerusalem, Ramallah	5	5	Court case and UNESCO file
	Israeli environmentalists	Tel Aviv, Jerusalem, Tsur Hadassah	6	6	Peace, Environmental cooperation
	International organisations	Bethlehem, Jerusalem	2	2	Peace, Environmental cooperation
	Sub-total		32	43	
Boké (2018–2019)	Mining companies	Conakry, Sangarédi	6	8	Mining, Peace, Environmental Cooperation
	Public sector (Ministries and local authorities)	Boké, Conakry	6	6	Mining, Peace, Policies, Environmental Cooperation
	NGOs	Conakry	7	9	Mining, Peace, Livelihoods
	International organisations	Conakry	5	6	Mining, Peace, Environmental Cooperation
	Sub-total		24	29	
	Total		56	72	

Table I-2: List of semi-structured interviews conducted

The semi-structured interviews were recorded except when an interviewee refused. Such refusal was related to the sensitive nature of the topic. This was especially the case in Guinea where interviewees associated with mining companies were particularly difficult to approach for interviews, or to record. This was mainly due to recent research led by the organisation Human Rights Watch (HRW), which had highlighted the negative impact of mining on local communities. Potential interviewees, especially those closely associated with the private sector, were thus hesitant to trust me to either conduct an interview or to record it (HRW, 2018). In the cases where an interview was conducted but not recorded, extensive and precise notes were taken and transcribed in full right after the interview. In addition, nine unstructured interviews were conducted with key stakeholders to collect complementary information for the case of Boké, due to the difficulties of formally interviewing official public and private representatives involved with the bauxite mining detailed above.

When selecting interviewees, special attention was paid to ensuring that a balance was maintained between the type of interviewees (i.e. representatives of the civil society, the local or national authorities, international organisations, or the private sector). The selection process also aimed to include interviewees from different socio-economic, age and gender groups in order to triangulate the data between different types of interviewees.

Interviews generally focused on the natural resources, environmental challenges and environmental cooperation events experienced directly or indirectly by the interviewees as well as their perception thereof. Indeed, as indicated in the theory section, the biophysical environment and natural resources are not conflict irritants or peace catalysts per se, but rather are constructed by the socio-environmental interactions at play in a certain context. Particular attention was paid to the way informants defined the notion of peace and the values they attributed to the biophysical environment. When discussing a specific environmental cooperation or peacebuilding project, questions focused on when, why, how and by whom such initiatives were conducted, as well as positive or negative outcomes of the projects. Interviews conducted with officials or environmentalists focused on technical aspects, while interviews with people involved in cooperative efforts focused on their perception of the impacts of such efforts.

Most interviews lasted between 45 and 90 minutes. I speak French (native), English (fluent) and Arabic (working knowledge). While in Boké, all interviews were conducted in French, interviews in Battir were conducted in English and Arabic, guided by a pre-translated question guide. In Battir, interviews were recorded and later translated into English by an assistant. Interviews in Boké were conducted in French and transcribed by me.

4.2.2. Focus group discussions

The focus group is a method used to collect qualitative data and consists of a discussion with a small group of people on the phenomenon under study that is facilitated and steered by the researcher (Cameron, 2010). Two focus group interviews were conducted for each case study, one with smallholder farmers and one with women in the case of Battir, and two with different villages impacted by mining activities in the region of Boké. They varied in size from less than ten people in Battir, where focus groups took place in a meeting room inside the municipality, to around 20 people in Guinea, where focus group discussions occurred in the villages' central squares and people joined in as the discussion unfolded. Initial participants were selected through key contacts in the community and according to their profile and role in local environmental issues. As with semi-structured interviews, questions revolved around the impact of conflicts on natural resources, environmental changes over time, environmental cooperation experiences and the perception of peace. The objective of these discussions was to form a better understanding of each groups' experiences, perceptions, interactions, and position regarding environmental peacebuilding, and to identify and touch upon topics that might not have come up during semi-structured interviews (Bryman, 2012; Gerring, 2006). The discussions were led by me in English (Battir) and French (Boké) and were facilitated by a local guide. The guide also helped to identify participants for these focus groups according to the criteria defined by me; namely farmers and women in Battir and community members impacted by mining in Boké. The guide also translated questions and responses in local languages to enable broader participation by community members.

4.2.3. Cross-sectional walks

For each of the two case studies presented in this dissertation, cross-sectional walks were done with the participants of Focus Group discussions (respectively two in Battir and two in Boké) as well as with two other key interviewees in Battir, for a total of six walks. Such walks constituted a participatory method that follows a defined path with communities (Bryman,

2012). This represented an opportunity for more informal exchanges with informants about their surroundings and daily lives, as well as for taking pictures. In Battir, the walks started at the municipality and moved down the valley to the other side of the railway, passing along the ancient irrigation system consisting of a water reservoir and irrigation pipes that pass through the village's agricultural terraces. In Boké, walks passed along villages' main water points (consisting of several dried-up water wells after the first focus group and across a bridge over the river after the second focus group) that, according to the villagers, were negatively affected by bauxite mining. The walks also allowed the participants to explain the evolution of the landscape to me before and after mining. The information gathered during these exchanges complemented the data recorded through interviews and focus groups, especially in relation to the degradation of natural resources and environmental challenges faced by local residents. These were often the cause of conflict and/or cooperation. The walks also provided some historical background on the local context. Although the factual details varied from one interviewee to the other, these exchanges were invaluable for understanding the perception and position of interviewees in the broader framework of environmental peacebuilding, as well as for getting a sense of the site. When discussing the surrounding environment, some interviewees pointed out, either consciously or not, aspects related to conflict, while others focused on cooperative events.

4.2.4. Participant observation

Participant observation consists of the researcher immersing herself in the research by being present, actively participating and observing in order to gain first-hand insights into the studied phenomenon while remaining able to extract herself from this experience and conceptualise it theoretically (Bryman, 2012; Gerring, 2006). Participant observation was conducted for both case studies by spending time as a guest in the villages under study and developing relationships with the informants. This helped me gain access and establish trust, as well as lower the reactivity of informants to my presence (Hammersley and Atkinson, 2019). For instance, I conducted field visits during environmental peacebuilding project activities (in Israel and Palestine) and participated in key meetings with civil society, companies, and local authorities (in Battir but also Boké and Conakry). I also conducted a site visit with a mining company near Boké in order to accompany their environmental representative in his daily activities and visit the surrounding of the main bauxite mining sites. In addition, the extended periods of time spent living in the regions under study and working as a development and humanitarian worker enabled me to form an in-depth understanding of the research context and its daily challenges. The data collected during participant observation was recorded in several field notebooks.

4.2.5. Bias mitigation

Biases are inherent to fieldwork (Gerring, 2006), especially in sensitive contexts often characterised by socio-political frictions and resource competition, such as places where environmental peacebuilding projects are implemented. As a result, some interviewees can be tempted to over-represent one-sided narratives to external researchers. To counter this, interviews were conducted with people representing various interest groups within the communities under study (e.g. people of different age groups, sex, political affiliation,

livelihoods), and to include interviewees from various interest groups and at different scales, such as participants in environmental peacebuilding projects, community leaders, representatives of the authorities, and employees of international agencies. Triangulating multiple evidence sources was key to building knowledge about the cases. Knowledge about cases was built using mixed methods during fieldwork, as presented above. Case study research is indeed enriched by a back-and-forth movement from abstract concepts to empirical observations (Lund, 2014). This iterative movement was strengthened by the fact that efforts to map and systematise the environmental pathways to peace (as detailed in Chapter II) were concomitant to the study design and preliminary data collection for Chapter III. Through this triangulation and iteration process, more confidence was built in the data (Lund, 2014). Besides, regular exchanges on methodological and theoretical aspects with other researchers were ensured throughout the research through the presentation and discussion of findings at conferences such as the first International Conference on Environmental Peacebuilding (Irvine, California) and the 13th annual graduate conference in Political Science, International Relations and Public Policy (Hebrew University of Jerusalem, December 2017). I also organised a Humboldt-Hebrew University joint workshop on 'The Hidden Politics of Infrastructure' in April 2017 and a field visit to Israel and Palestine with members of the IRI THESys Integrative Geography Research Group.

4.2.6. Secondary sources

Secondary data was obtained when interviewees mentioned relevant documents, such as UNESCO files in Battir, and, for the case of Boké, mining documents such as contracts and environmental assessments. In fact, most interviewees, with the exception of mining companies, spontaneously offered to support my research by sharing entire technical files that they had been directly involved with, which was a great help for accessing sources that were not publicly available. These documents provided complementary data for studying the linkages between environmental issues on one side, and peace and conflict on the other. They were used to cross-check data collected through interviews, focus groups, walks and participant observation. Doing so strengthened confidence in the qualitative data collected in the field and served to decrease the risk of bias when receiving partial information from the interviewees that was aimed at influencing the researcher, as can happen in highly politicised contexts such as the Israeli-Palestinian conflict or mining conflicts.

4.2.7. Data coding and analysis

Coding is a key step in content analysis, through which qualitative data is organised to make sense of a social phenomenon under study (Bryman, 2012; Chandra and Shang, 2017; Flick, 2014). In the two case studies presented in this dissertation, data was coded through the lens of environmental peacebuilding. Themes or codes included natural resources, conflicts, and peacebuilding.

The analysis focused on how different groups of informants, whether from civil society, local authorities, or international agencies, understood key concepts such as trust, peace, and sustainability. An inductive data analysis was performed, identifying linguistic units and attributing the data source and type of informant for each interview (Chandra and Shang, 2017).

The computer-assisted qualitative data analysis software RQDA was used to facilitate and systematise this exercise (Huang, 2016).

Following this, patterns were identified based on whether interviewees determined issues related to natural resources and environmental challenges to be either causes or consequences of conflicts, or as opportunities for cooperation and peace. This served to confirm whether the hypothesis of an environment-peace nexus was applicable in a given context and, if so, by which actors. Based on this, hypotheses related to why and how environmental cooperation could contribute to peacebuilding were formulated and tested by triangulating qualitative data from multiple interviews, focus groups, informal discussions, and secondary data documents.

4.3. Fieldwork

The first year of the research presented in this dissertation was devoted to a comprehensive review of the literature on environmental peacebuilding. Starting with Conca and Dabelko's milestone 2002 book *Environmental Peacemaking*, the scope of the review was gradually extended to look into relevant academic sources from diverse fields such as human geography, environmental sciences, and peace studies as well as environmental peacebuilding reports and evaluations. This review served as the basis for the publication of an IRI THESys review paper entitled 'Moving beyond natural resources as a source of conflict: Exploring the human-environment nexus of environmental peacebuilding' (Dresse et al., 2016).

The preliminary phase of the research then moved to fieldwork preparation. A substantive portion of the peacebuilding literature focuses on the Middle East region, and environmental peacebuilding is no exception. Hence, at the onset of this research, fieldwork was planned to take place along the borders between Israel, Palestine and/or Jordan, however, a concrete case was yet to be identified. At the end of 2015, a joint research project was funded in the framework of this research, led by Prof. Jonas Ø. Nielsen (Humboldt-Universität zu Berlin, Department of Geography) and Prof. Itay Fischhendler of the Hebrew University of Jerusalem's Geography Department, to explore the concept of environmental peacebuilding and debunk potential myths concerning the interlinkages between the biophysical environment and sustainable peace by defining the mechanisms through which this relationship materialises.[4]

During fieldwork preparation, a table was compiled with key data on environmental peacebuilding projects in the Middle East.[5] Initial contacts were made with key stakeholders in the Middle East identified as potential entry points for fieldwork during the initial phase of the research. This was followed by preliminary fieldwork which took the form of visits to several environmental peacebuilding projects that were implemented by international and local non-governmental organisations (NGOs) in the region. Ten preliminary interviews were conducted with NGOs and donor agencies who were implementing and/or funding projects revolving around environmental peacebuilding in the region, either by phone or in person.

[4] The outcome of this joint research can be found in Chapter II of the dissertation. More detailed information is available on the research project "Environmental peacebuilding: Myth or reality?" under this link: https://www.iri-thesys.org/research/research-groups/integrative_geography/copy_of_environmental-peacebuilding/environmental-peacebuilding-myth-or-reality.

[5] See summary in Appendix 1. More examples of water cooperation projects can be found in Kramer, 2008.

Preliminary fieldwork was then realised from the middle to end of 2016 on three sites to visit such projects and meet with local environmentalists.

Following field visits with the IRI THESys Research Group, during which meetings with several organisations involved in environmental preservation and/or peacebuilding were planned to take place at the end of 2016, the case of environmental peacebuilding in Battir was identified for further study. The case of Battir was selected due to the long-term involvement of the local population in environmental cooperation initiatives at different scales as well as their passive stance in such processes. The village's biophysical and geopolitical location along the 1949 Armistice Line between Palestine and Israel was another interesting element that could be used to explore the concept of environmental peacebuilding. To collect data on this, regular field visits were conducted over a period of three months (December, 2016 to February, 2017), applying the methods described above. Once data collection for this first case study was completed, data was analysed while a second case study was designed that would further investigate different types of actors involved in environmental peacebuilding in the underexplored West African context, as I moved to Guinea-Conakry for a new assignment in mid-2017. For this case study, preliminary fieldwork spanned several visits to different mining areas in the country in order to establish rapport and build good relationships with the subject in advance of data collection in February-May 2019 in the selected bauxite mining region of Boké (Collins et al., 2002; Guillemin and Heggen, 2009).

4.4. Limitations

Field research brings an understanding and experience of the phenomenon that only exposure can grant. However, it also comes with a number of challenges and limitations. When opting for case study research, the time it takes to develop an in-depth understanding of the local context and object under study cannot be underestimated. Juggling full-time employment with field research resulted in phases of intense field research and writing followed by more latent periods. In the case of Battir, a further challenge related to the timing of the events under study presented itself. Most environmental cooperation efforts had occurred before 2014 and, hence, it was not possible to experience them first-hand. As the bulk of events related to environmental peacebuilding were in the recent past and most people involved were still present in the field, I did manage to negate this by obtaining direct testimonies of their observations and perceptions of these events. Though it would have been better to have been able to directly participate in and observe these events as they unfolded, this method did allow me to assess the lasting impact – or lack thereof – of measures that were promoted as environmental peacebuilding on the ground. The study of environmental peacebuilding in Boké was faced by the reverse problem, as most initiatives were still in their initial phase and very 'green', thus not allowing for the collection of data on the durable impact of environmental cooperation on peacebuilding, but rather only for the challenges of setting up a participative and inclusive mechanism for environmental cooperation.

During fieldwork, researchers are confronted with a number of challenges and obstacles that affect their understanding of the case and its context. For instance, the crossing of borders can be complicated by hostile relations between conflicting parties, and witnessing the daily hardships faced by the local population in border communities such as Battir was key to understanding the case under study. In Boké, the lack of facilities and infrastructure in the

region, as well as the language barrier, made it difficult to work there. Perhaps the main challenge during field work was to account for my own position as a researcher in the field and the potential influence of interviewee's perception of my presence and questions about the study's results. For instance, in the context of the Israeli-Palestinian conflict, mentioning peacebuilding can alienate some interviewees or orient their responses. This bias was avoided by clearly stating the objective of the research, as well as my external position as a researcher in the cases under study.

It must be noted that I was based in Jerusalem from March, 2016 to March, 2017 and in Conakry from April, 2017 to August, 2019 for professional reasons which were unrelated to the topic of this dissertation. I have been employed in various development and humanitarian organisations in West Africa and the Middle East since 2012, and have thus been conducting this research in parallel with these professional obligations. Having prior experience in both regions, I was familiar with the general context of both cases, which was especially useful in the study design phase. During fieldwork, interference between research and professional activities was avoided by keeping both activities fully separate. The cases were selected in areas where I was not active professionally, and all data collection and analysis were conducted during my private time. When interacting with people in the field, I did not mention my professional activities, staying open and transparent about it when asked but not mentioning it when it was unnecessary as to avoid misunderstandings regarding the purpose of my research. Nevertheless, conducting research while working full time sometimes caused a delay in research activities.

5. Structure of the dissertation

This introductory chapter has provided the setting, theoretical background and methodology used in the following chapters of this dissertation, which consists of three articles written as stand-alone manuscripts. However, each chapter tackles complementary aspects of the dissertation objective and research questions presented in this introduction. Together, they contribute to advancing the knowledge on environmental peacebuilding by highlighting different aspects and questions and are structured as follows.

Chapter II – Environmental Peacebuilding: Towards a theoretical framework.

Chapter II offers a comprehensive review of the environmental peacebuilding literature over the past decades, from the predominant environmental-scarcity-conflict nexus in the 1980s to a nexus of environment-peace in the early 2000s. Environmental peacebuilding envisions cooperation as a win-win solution that can mitigate environmental conflicts and minimise spill-over to other sectors. However, the lack of a coherent environmental peacebuilding framework and systematic evidence on the existence of an environment-peace nexus represents an obstacle for this growing field of research. Using an interdisciplinary approach, this chapter explores and illustrates the causality, drivers, and prerequisites of environmental peacebuilding. It deconstructs the different pathways of environmental peacebuilding identified in the literature into building blocks and identifies causal linkages between them, to develop knowledge of when, how and why environmental cooperation contributed to broader peacebuilding. Finally, the theoretical gaps of the environmental peacebuilding literature are outlined.

Chapter III – The power of the local in environmental peacebuilding.

Chapter III focuses on the role of local actors and bottom-up environmental peacebuilding in leveraging transboundary environmental cooperation to achieve environmental protection but also socio-political goals. The case study examines the Palestinian village of Battir and its residents' fight against Israeli military plans to build a separation wall through the surrounding valley. It offers insights into the interplay between local, state, non-state, and international actors, as the case is intertwined with the site's nomination as a UNESCO Cultural Heritage Site in Danger. In doing so, emphasis is placed on cooperation between conflicting parties and the interconnected nature of the biophysical and socio-political environments. Drawing on critical peace studies and political ecology, this chapter questions the apolitical narratives predominant in the environmental peacebuilding literature and places the notions of local agency and hybrid peace on the environmental peacebuilding research agenda.

Chapter IV – From corporate social responsibility to environmental peacebuilding: The case of bauxite mining in Guinea.

Chapter IV maintains the focus on agency but moves to the role of the private sector as complementary to local communities, national authorities, and the international community. It draws on the resource curse literature, questioning whether resource abundance constitutes a threat or an opportunity for peace in the context of Boké (Guinea), the largest bauxite reserve in the world. Creating linkages between environmental peacebuilding and Corporate Social

Responsibility (CSR), it focuses on win-win cooperation around social and environmental issues to build evidence on the potential role of the extractive sector in the environment-peace nexus, but also its limitations. Based on this case's findings, the potential role of the extractive sector, and mining companies in particular, as actors of environmental peacebuilding are discussed.

V – Synthesis

In the last chapter of this dissertation, the conclusions of the three previous chapters are drawn, before pathways for future research are explored. Building on the parallels identified between the case studies presented in Chapters III and IV, concluding remarks highlight the similarities and differences between both cases and what insights these bring to the existing literature, as explored in Chapter II. Finally, the need to build more systematic evidence on the environment-peace nexus, its human dimension, and the multiplicity of values and perceptions attributed to the environment and peace by different actors are identified as potential aspects to be further explored in environmental peacebuilding research.

Chapter II
Environmental peacebuilding: Towards a theoretical framework

Joint environmental peacebuilding workshop in the Arava Valley, November 2016

Dresse A, Fischhendler I, Nielsen JØ and Zikos D. (2019).

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Abstract
Environmental peacebuilding represents a paradigm shift from a nexus of environmental scarcity to one of environmental peace. It rests on the assumption that the biophysical environment's inherent characteristics can act as incentives for cooperation and peace, rather than violence and competition. Based on this, environmental peacebuilding presents cooperation as a win-win solution and escape from the zero-sum logic of conflict. However, there is a lack coherent environmental peacebuilding framework and evidence corroborating the existence of this environment-peace nexus. Building on a multidisciplinary literature review, this article examines the evolution of environmental peacebuilding into an emerging framework. It unpacks the concept and explains its main building blocks (conditions, mechanisms, and outcomes) to develop our understanding of when, how and why environmental cooperation can serve as a peacebuilding tool. It assembles these building blocks into three generic trajectories (technical, restorative, and sustainable environmental peacebuilding), each characterised according to their own causality, drivers, and prerequisites, and illustrated with concrete examples. Finally, this article draws attention to the remaining theoretical gaps in the environmental peacebuilding literature, and lays the foundations for an environmental peacebuilding research agenda that clarifies if and how environmental cooperation can spill over across borders, sectors, and scales towards sustainable peace.

1. Introduction

Environmental issues were first identified as a potential cause of violent conflict by the 1987 United Nations (UN) report "Our Common Future" (Brundtland Report). Since then, a growing body of academic literature has examined the causal links between a conflict's onset, duration, and intensity on one side, and resource scarcity – or abundance – on the other (Homer-Dixon, 1999; Baechler, 1999; Collier and Hoeffler, 2012; de Soysa, 2006). From the early 2000s on, interdisciplinary literature challenging the environment-conflict nexus has shifted focus from resource scarcity to interdependence and sustainable development, viewing environmental challenges as an incentive for trans-boundary cooperation rather than a cause for violent conflict (Brauch, 2009; Hagmann, 2005; Harari, 2008; Wolf, 2007). Initially termed "environmental peacemaking" (Conca and Dabelko, 2002), this approach focusing on shared natural resources as a conflict resolution tool has since developed into a transformative framework that encompasses conflict prevention and post-conflict peacebuilding (Dresse et al., 2016).

Considering the multiplicity of actors and the coexistence of conflict and cooperation at different scales, the environmental peacebuilding literature highlights the transformative potential of environmental cooperation, but also its contextualised nature (Giordano et al., 2005; Selby, 2013a; Wessels, 2016). Environmental peacebuilding is based on the hypothesis that the mutual benefits of cooperation outgrow the self-interested rationale of conflicts and can contribute to the pacification of coupled human-natural systems in a durable and multifaceted way (Dalton, 2011; Dombrowsky, 2009). This hypothesis is supported by most non-orthodox economic approaches, nuancing rational choice as a primary motivation for human action, viewing conflict as not purely determined by competition but resulting from many factors (Dupuy et al., 2015). International organisations and policy-makers are also increasingly turning to environmental cooperation as a potential peacebuilding tool to address resource-driven conflicts and beyond. Environmental peacebuilding is now part of an emerging global research agenda and a priority area for several international organisations (e.g. UNDG, 2014; Matthew et al., 2009), representing important funding opportunities channelled through bilateral agencies or multilateral funds such as the UN Peacebuilding Fund, the UN-EU Partnership on Natural Resources, Conflict and Peacebuilding or the United Nations Environment Programme's Environmental Cooperation for Peacebuilding Programme.

In spite of a growing interest of researchers and practitioners, demonstrating the causal linkages between environmental cooperation and peace remains challenging (Conca, 2001; Dresse et al., 2016; Krampe, 2016b; Waisová, 2015). Several authors highlight the lack of harmonised framework and empiric data to assess the existence of an environment-peace nexus (Carius, 2006; Dabelko, 2006; Ide, 2018). The environmental peacebuilding literature is mainly composed of isolated case studies (Conca and Dabelko, 2002; UNEP, 2016), small-N cross-country comparisons (Carius, 2006; Waisova, 2015), and fewer attempts at large N-studies which mostly focus on water-related issues (Grech-Madin et al., 2018; Ide, 2018). Comparative studies are complicated by the multiplicity of contexts and actors involved, as well as the multi-causal mechanisms that impact environmental peacebuilding (Waisova, 2015). In addition, terms such as 'environment' and 'peace' have multifaceted meanings grounded within a wide array of disciplines such as peace and conflict studies, political ecology, hydropolitics, institutional and ecological economics (Costanza et al. 2001; Hardin, 2004; Ostrom, 1990,1992). As a result, environmental peacebuilding failed to evolve into "a concrete and

distinct set of practical activities" nor a "coherent theoretical school" grounded on solid epistemological assumptions and empirical evidence, but instead grew into "an umbrella term that covers a wide range of aspects on the relationships between environment, conflict, and peace" (Maas et al., 2013: 103). This bears the risks of turning environmental peacebuilding into a buzzword used to attract international funds (Aggestam, 2015; Mac Ginty, 2015).

To fill in this theoretical gap, this article provides a critical review of the key concepts extracted from the dispersed and fragmented environmental peacebuilding literature that has emerged since Conca and Dabelko's 2002 landmark book 'Environmental Peacemaking'. Based on the theoretical contributions from different disciplines as well as qualitative data from a selection of case studies and policy documents, the concept of environmental peacebuilding is deconstructed into three main building blocks, namely its initial conditions, mechanisms, and outcomes, respectively corresponding to when, how and why conflict parties can engage in environmental cooperation and peacebuilding (Carius, 2006; Conca and Dabelko, 2002; Dabelko, 2006). This article also draws on qualitative systematic review, as it establishes causal linkages between each building block to assemble them into a framework synthesis made of three generic – non-exhaustive – trajectories: technical, restorative, and sustainable environmental peacebuilding. The main contribution of this article is thus to define and reorganise the key concepts related to environmental peacebuilding into a more systematic framework. This will enable comparative analysis between case studies to build up evidence on the environment-peace nexus, while leaving room for the complexity and contextual specificities of environmental peacebuilding.

The next section retraces the evolution of the concept of peacebuilding, which paves the way to define environmental peacebuilding in the third section. In the following section, we define the constitutive building blocks of environmental peacebuilding, laying the basis for the proposed framework. The three generic trajectories emanating from this are then outlined and illustrated using examples from the literature in the fourth section. Finally, the fifth section discusses the remaining gaps to bridge theory and practice, focusing on the potential spillovers across borders, sectors, and scales, and concluding by setting a future research agenda on environmental peacebuilding.

2. The roots of peacebuilding

Violence can be direct – whether physical or verbal – or structural (Galtung, 1996), while peace ranges from negative peace – the absence of violence – to positive peace, defined as the ability to solve conflicts non-violently within a harmonious, equitable society (Galtung, 1996; Ide, 2018). Peacebuilding originated as one of three different approaches to peace, along with peacemaking and peacekeeping, and aims at overcoming the roots of direct and structural violence (Conca and Dabelko, 2002; Galtung, 1976). As such, it refers to a broad set of actions aimed at shifting the relationships between former conflict parties towards sustainable reconciliation. It contrasts with peacemaking, which in some instances corresponds to conflict resolution through diplomatic negotiations and peace agreements (Lederach, 1997). Originally focused on state actors and organisations, peacebuilding evolved towards a more inclusive, long-term approach to peace, understood as a dynamic social construct involving decision-makers at all levels, from high level to grassroots leadership (Lederach, 1997). No longer limited to post-conflict stabilisation (Boutros-Ghali, 1992), peacebuilding can be implemented

before, during and after conflicts to prevent latent violence, de-escalate violent conflicts and build lasting peace in the post-conflict stage (Dabelko, 2006).

The concept was mainstreamed in the early nineties with an essentially top-down approach guided by the ideals of liberalism, democracy, and the market economy (Mac Ginty and Richmond, 2013; Newman, 2011; Selby, 2013a). It focused on building state capacities, developing security systems and political processes (Conca, 2001; UN, 2009), as well as trade and deriving peace dividends (Barbieri, 2002; UN, 2009). State- and organisation-centric approaches to peacebuilding, however, showed limited results and a low return on investment in the long-term (Krampe, 2016a; Mac Ginty, 2015; Richmond, 2009). In response, attempts to involve local and mid-range actors were initiated to stimulate local ownership and legitimacy, but remained superficial (Büscher, 2013; Krampe, 2013; Mac Ginty, 2011). Critics attribute the poor results of this 'liberal' approach to peacebuilding to the emphasis placed on economic triggers of cooperation and the lack of consideration of local agency, instead considering the local as an empty space where the international agenda could be deployed (Aggestam, 2015; Björkdahl and Höglund, 2013; Mac Ginty, 2015).

Critical peace studies reoriented the peacebuilding debate towards a more inclusive, contextualised system accounting for local agency as a heterogeneous space of activity and decision-making (Mac Ginty, 2015). This approach conceptualises peacebuilding as a hybrid process derived from global–local interplays (Björkdahl and Höglund, 2013; Mac Ginty and Richmond 2013; Richmond, 2009). The local focus has resulted in bottom-up approaches to peacebuilding processes, leaving room for the comprehension of changing identities and perceptions across space, culture, and time (Mac Ginty and Richmond 2013; Richmond, 2009; Wessels, 2016). Such issues can materialise within everyday interaction and empathy, but also in local resistance to international peacebuilding efforts and externally imposed norms and institutions (Mac Ginty and Richmond 2013; Richmond, 2009). However, a dichotomic approach to international and local peacebuilding and a simplified view of 'the local' as rural, living in harmony with nature, and endowed with an inherent ecological conscience have been pointed out as some of the shortcomings of this focus (Björkdahl and Höglund, 2013; Mac Ginty, 2015). Similarly, the narrative of nature as a given which remains unchanged across space and time still dominates the environmental peacebuilding literature, as detailed below (Scoones, 1999).

3. Defining environmental peacebuilding

Five years after the Brundtland Report, the 1992 Agenda for Peace, another milestone United Nations document on peacemaking and peacekeeping, established the link between the environment, sustainable development, and peace (Boutros-Ghali, 1992). Envisioning shared environmental challenges as a source of potential cooperation (Conca and Dabelko, 2002) represents a paradigm shift away from resource scarcity as a cause of conflict (Baechler, 1999; Homer-Dixon, 1999). Resource scarcity can be demand- or supply-induced, and is here understood as a social construction determined primarily by allocation processes that regulate its access and consumption (Vatn, 2005; Zikos et al., 2015).

A central premise of environmental peacebuilding is that trans-boundary environmental issues represent an opportunity to move from rivalry to partnership by switching from administrative, politico-territorial borders to ecosystem borders (Boutros-Ghali, 1992; Conca and Dabelko,

2002; Ide and Scheffran, 2013). Environmental cooperation is expected to derive mutual gains and promote reconciliation by stimulating trans-boundary dialogue and trust between state and non-state actors (Carius, 2006; Conca and Dabelko, 2002; Maas et al., 2013). Although research at the intra-state level has recently been developed (Grech-Madin et al., 2018; Krampe, 2016a; 2016b), the bulk of the literature focuses on inter-state environmental peacebuilding.

Focusing on inter-state environmental cooperation as high politics, existing environmental peacebuilding models tend to simplify the heterogeneity and internal dissensions that may exist within local communities, and impose a top-down definition of the local (Mac Ginty, 2015). The fields of hydropolitics and negotiation theory highlight the impact of power and human behaviour on decision-making, and further our understanding of how the conditions, mechanisms and outcomes of environmental peacebuilding can be perceived differently by all parties (Aggestam and Sundell-Eklund, 2014; Mac Ginty, 2015; Wessels, 2016; Zeitoun and Warner, 2006).

Considering the diverse biophysical, political, and social settings of environmental cooperation, the variety of interests and values underlying human-environment interactions should be taken into account to fully grasp what motivates environmental cooperation and to what extend it effectively contributes to peacebuilding (Ide, 2017; Waisová, 2015; Wessels, 2009). Conflicting interests may emerge at different governance levels regarding the use or protection of natural resources, and local interest groups may have concurring perceptions of a conflict situation and the potential pathways to peace (Mac Ginty and Richmond, 2013; Wessels, 2016). In this frame, contending interests may preclude deliberation and reason giving, vital social processes to avoid conflicts (Hiedanpää and Bromley, 2016). From this perspective, environmental governance comes forward as a framework for creating, validating, or changing institutions in order to resolve conflicts over natural resources (Bromley, 1991).

In sum, despite the increasing focus on environmental cooperation as a peacebuilding tool, incorporating such diverse factors increases the challenge of fully envisaging how this environment-peace nexus might unfold in practice (Carius, 2006; Ide and Scheffran, 2013; Kramer et al., 2013). Environmental peacebuilding encompasses a broad range of initiatives, but remains largely dominated by rational choice and neoliberal conceptions of the biophysical environment and peacebuilding, on the premise that parties will prefer to engage in mutually beneficial cooperation rather than zero-sum conflict based on a cost-benefit calculation (Conca and Dabelko, 2002). Accordingly, many environmental peacebuilding initiatives focus on the market value of environmental resources and seek to derive win-win solutions though economic recovery and the creation of livelihoods (Bruch et al., 2016; Büscher, 2013; Conca and Dabelko, 2002; Green, 2015). Such initiatives are not necessarily sustainable in the long run because they might not correspond to local capacities and priorities (Collier and Hoeffler, 2012; Newman, 2010; Swain and Krampe, 2011). They might also fail to account for the multifaceted, long-term nature of environmental problems and the social, cultural, and political identities that are vested in the immaterial values of natural resources (Green, 2015; Wessels, 2016).

The table below summarises the main terms related to environmental peacebuilding, and details its timeframe, mechanisms, outcomes, and actors according to key authors:

Terminology	Timeframe	Mechanisms	Outcomes	Actors involved	Key authors
Peacebuilding	Can be initiated at any time	Stimulate and institutionalise exchanges between parties	Non-violent conflict resolution and transformation	Interdepen-dent states and non-state actors	Galtung (1976)
Transformative peacebuilding	Long timeframe before and after peace accords	Build relationships and develop infrastructures	Sustainable reconciliation by changing relations at all levels	Top, middle-range and grassroots leadership	Lederach (1997)
Post-conflict peacebuilding	During the first two years following conflict resolution	Build capacities, security and political processes	Stability through state-building and peace dividends	States, humanitarian and development agencies	Boutros-Ghali (1992); UN (2009)
Hybrid peacebuilding	Local agency pre-exists and respond to externally driven peacebuilding	Everyday interaction, empathy and local resistance	Hybrid peace governance tailored to the local context and norms	Dichotomy between international and local actors	Mac Ginty and Richmond (2013)
Environmental peacemaking	Can be initiated at any time	Mutual gains and institutional change	Equitable resource distribution and improved transnational relations	States and non-state actors	Conca and Dabelko (2002)
Environmental peacebuilding	During periods of low conflict intensity	Technical cooperation, shared spaces, joint management	Alleviate scarcity, dialogue and sustainable development	Engage policy-makers	Maas et al. (2013)

Table II-1: From peacemaking to environmental peacebuilding

We have seen that environmental peacebuilding is neither governed by a coherent set of theories nor limited by strict disciplinary boundaries. Instead, it encompasses a multitude of conceptions and epistemological assumptions concerning the links between the environment, conflict, cooperation, and peace, sometimes concluding in contradictory propositions. Based on this critical review, we define environmental peacebuilding as the process through which environmental challenges shared by the (former) parties to a violent conflict are turned into opportunities to build lasting cooperation and peace.

Several 'pathways' or 'categories' of environmental peacebuilding are identified in the literature, such as preventing environmental conflicts, promoting dialogue and trust, and sustainable development (Carius, 2006; Conca and Dabelko, 2002; Maas et al., 2013). Furthermore, the literature stresses the importance of the context in which environmental peacebuilding originates, and identifies different mechanisms through which it operates and potential benefits of environmental cooperation (Conca and Dabelko, 2002; Ide, 2018; Maas et al., 2013; Matthew et al., 2009). However, there is neither consensus on, nor comprehensive understanding of how these constitutive elements of environmental cooperation build up towards lasting peacebuilding (Waisová, 2015).

4. Towards an environmental peacebuilding framework

Based on the assumptions and dispersed findings of previous studies, this section deconstructs environmental peacebuilding into three core building blocks, addressing the following questions:

1. Initial conditions: When do conflict parties resort to cooperation instead of competition over natural resources?
2. Mechanisms: How do parties address shared environmental challenges?
3. Outcomes: Why do they do so and what are the expected versus actual benefits?

This section then reassembles these building blocks into three generic trajectories of environmental peacebuilding. This systematic approach paves the way towards the establishment of a theoretical framework allowing to empirically assess, in a conceptually informed manner, the environment-peace nexus. These trajectories are not comprehensive, but can overlap, creating other and hybrid trajectories, or emerge concurrently on different scales (Carius, 2006; Ide, 2017). The building blocks and trajectories of environmental peacebuilding are summarised in Figure II-1 and defined below:

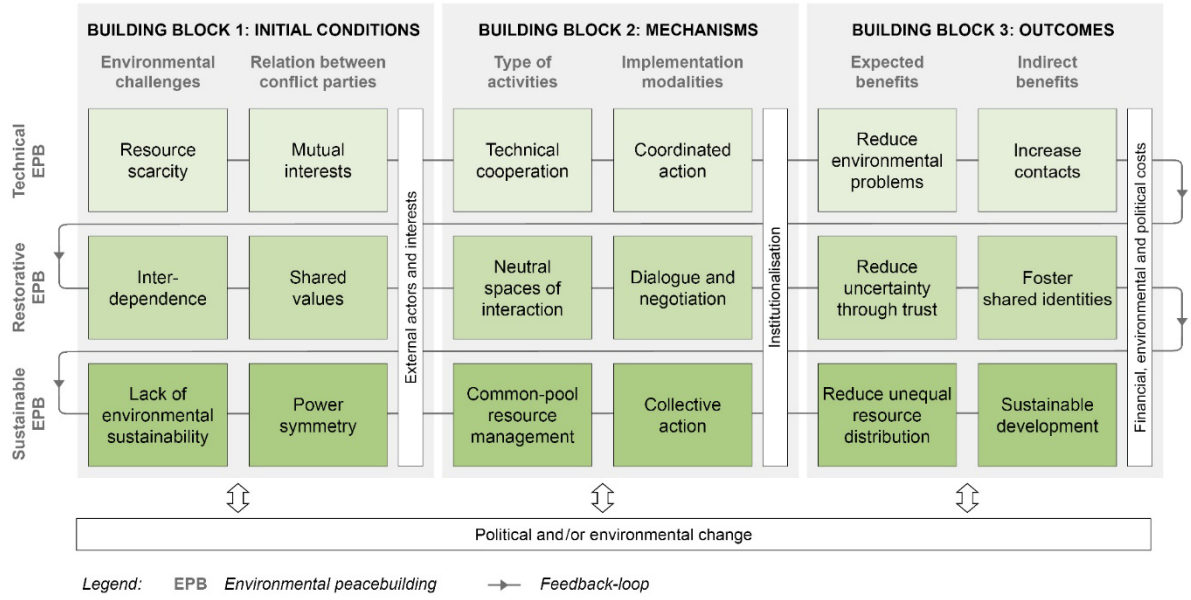


Figure II-1: Environmental peacebuilding trajectories (Own figure)

4.1. Initial conditions

The first building block corresponds to the initial conditions under which environmental peacebuilding initiatives unfold. The environment designates both biophysical aspects and the socio-political context. Accordingly, two types of contextual conditions are singled out within this first building block: the environmental challenges which cooperation aims to tackle and the pre-existing relations between conflict parties.

The first set of conditions refers to the overarching features of the biophysical environment and natural resources that act as cooperative triggers – such as actual or perceived resource scarcity

or abundance, environmental interdependence across political borders, and the lack of sustainability. The second set of conditions relates to the socio-political environment in which conflict parties evolve, and consists of their mutual interests, shared values, and level of power symmetry. Mutual interests refer to the concomitant needs of conflict parties, which can lead to mutually beneficial agreements instead of unilateral actions to address trans-boundary environmental challenges. Fragmenting ecosystem management along socio-political lines is indeed often less cost-effective than cooperation, which allows for economies of scale (UNPSO, 2012). In addition to the intrinsic benefits of environmental protection for human life and the environment itself, political or financial gain – so-called peace dividends – can thus motivate environmental cooperation. Shared ecological or political values can also trigger positive interactions through a common language and objective. Power asymmetries, defined as "disparities in wealth, power and negotiating capacity" can, on the contrary, decrease the willingness and ability to negotiate and share equal benefits (UNDP, 2006: 223). Although asymmetric power relations do not exclude cooperation, they might severely hinder it, depending on the degree of inequality and associated costs that disadvantaged actors are willing to tolerate (Fischhendler et al., 2011; Janssen et al. 2011), and leading to an inefficient outcome of negotiations (Kasymov and Zikos 2017; Knight, 1992). Therefore, the level of power symmetry between conflict parties is a third element to consider within the initial conditions of environmental peacebuilding.

Finally, external actors and interests also play a role in the socio-political environment. Donor agencies, international and non-governmental organisations play a central role in funding environmental peacebuilding projects, and can act as neutral intermediaries (Mac Ginty, 2015; Selby, 2013a).

A comprehensive approach to the biophysical and socio-political environment of conflict transformation is thus key to understanding how different parties perceive and shape conflicts and cooperation, and how social identities and power distribution affect their involvement in environmental peacebuilding (Aggestam and Sundell-Eklund, 2014; Conca and Dabelko, 2002; Wessels, 2016).

4.2. Mechanisms

The second building block of environmental peacebuilding comprises its mechanisms, which are divided into two elements: the type of activities and their implementation modalities. The first type of activity is technical cooperation, which falls under the authority of trans-boundary epistemic communities under the pretext of neutrality and efficiency (Haas, 1992; Mac Ginty, 2012; Stetter et al., 2011). A second type of activities aims at creating neutral spaces of interaction where conflict parties can exchange freely. Finally, environmental peacebuilding can take the shape of common-pool resource management, where resource users are moving gradually away from competition and towards cooperation (Ostrom, 1990).

These activities are implemented through different modalities, which range from coordinated action to dialogue and negotiation, and finally collective action understood as cooperative behaviour to produce collective benefits. If the level of violence is high, the cost of cooperation increases and conflict parties are more likely to engage in limited cooperation modalities requiring no or little direct interaction, such as coordination on technical issues (Carius, 2006). When conditions enable direct contact between parties, dialogue and negotiation can contribute

to the diffusion of tensions and foster mutual understanding and recognition between conflict parties (Barbieri, 2002). Finally, environmental peacebuilding can redefine the relationships between parties by shifting the emphasis from political borders to socio-ecological systems, and thereby towards collective action for common-pool resource management (Ide, 2017).

The tailored environmental governance structures which often exist in the case of common-pool resources present certain advantages over more inclusive and generalised approaches ('one-size-fits-all' solutions), as they seek to account for the complexity of social-ecological systems and can enable the creation, validation or change of institutions to peacefully resolve conflicts over natural resources (Zikos and Hagedorn, 2017; Bromley 1991). Institutions can take the shape of conventions, norms, or formally sanctioned rules, and can be defined as stable patterns of human behaviour, shared norms and rules that provide meaning and stability to society (Crawford and Ostrom, 1995; Vatn, 2005). Norms are here understood as socially created and internalised rules – whether formal or not – that "define and support values in a situation with conflict potential" (Baerlein et al., 2015). In this frame, institutionalisation occurs when formal rules are set in place, increasing predictability in the other's behaviour, and decreasing uncertainty (Bromley, 2006; Fischhendler et al., 2011). As such, institutionalisation constitutes another, transversal mechanism of environmental peacebuilding which provides a shared normative framework to cooperating parties (Bruch et al., 2016; Kramer, 2008; Vatn, 2005).

4.3. Outcomes

The third and last building block of environmental peacebuilding is constituted by its direct and indirect outcomes, and their related costs. The potential direct benefits of environmental peacebuilding are the reduction of environmental problems, uncertainty, or resource inequality. The first benefit expected from environmental cooperation is indeed to reduce shared environmental problems linked to resource scarcity and environmental degradation, as well as their associated costs. The second expected benefit assumes that repeated interaction between conflict parties can foster a habit of cooperation and build trust (Conca and Dabelko, 2002; Hardin, 2004; Ostrom, 1998). In times of violent conflict, the relation between parties is often characterised by mistrust, defined as uncertainty about the future actions of opponents. The relationship between cooperation (whether of a bilateral or multilateral, regional or sub-regional nature) and trust holds a prominent place in key interdisciplinary literature (cf. Hardin, 2004; Ostrom, 1998), highlighting the role of trust in facilitating cooperation and thus implicitly affecting various behavioural outcomes. However, while contacts between individuals can foster interpersonal trust, it does not necessarily transform into general trust at the collective level (Alon and Bar-Tal, 2016; Etter, 2007; Sztompka, 1999). Finally, environmental cooperation can reduce perceived inequalities related to natural resource access and distribution, thereby laying the roots of sustainable peace (Harwell, 2016; Kashwan, 2017). Indeed, durable peacebuilding cannot be externally imposed, but should result from collective action sanctioned by all participants and resource allocation perceived as fair by all parties involved (Büscher, 2013; Jäkerskog, 2013; Mac Ginty and Richmond, 2013).

These direct benefits of environmental cooperation can contribute to improving the relationships between conflict parties through a virtuous cycle of cooperation. The indirect benefits of environmental cooperation are difficult to grasp due to the many external factors

with which they interact over time, but are vital to determine how environmental peacebuilding can contribute to broader peace. Firstly, the limited interactions needed for technical coordination can initiate trans-boundary and/or inter-community dialogue, based on the 'contact hypothesis' (Barbieri, 2002). Secondly and as introduced in the 'mechanisms' section, collective trust, if achieved, is expected to facilitate the scaling-up of social identities from political to ecological boundaries, thereby paving the way for collective action (Carius, 2006; Harari, 2008; Ide, 2017). Indeed, evidence acquired from research within institutional economics and beyond demonstrates the impact of "social norms prescribing cooperative or trustworthy behaviour" on societies' ability to overcome obstacles related to collective action through expected reciprocity, while reducing associated risks (Keefer and Knack, 2005; Ostrom, 1990, 1992). Finally, by fostering a more equitable distribution of natural resources, environmental peacebuilding promotes social and environmental justice (Harwell, 2016; Kashwan, 2017), ultimately contributing to sustainable development.

The direct and indirect benefits of environmental peacebuilding however come with potential financial, environmental, and political costs, even though donor agencies often bear most of the financial costs. In fact, initiatives labelled as environmental peacebuilding are not always the most cost-effective solutions and are not necessarily environmentally friendly, as illustrated by the Red Sea–Dead Sea Conveyance project. With a total financial cost estimated to around 10 Billion USD, the project is presented as a symbol of peace and cooperation between Israel, Jordan, and the Palestinian Authority (World Bank, 2014). Concerns have however been voiced over its potential ecological damages, and alternatives have been identified by environmental organisations (JIIS, 2011). Besides unbalanced cost sharing, the results of environmental cooperation can create "unintended negative by-products" and constitute a public bad for those excluded from decision-making processes (Cowen and Sutter, 1999: 164). In deeply divided societies, one interest group's advantage can come at the expense of the other, and lead to another group's marginalisation and exclusion (Cowen and Sutter, 1999; Ide, 2017; Mac Ginty, 2015).

Assembling the elements from these three building blocks, three main trajectories of environmental peacebuilding are outlined and described in the next section.

4.4. Three trajectories of environmental peacebuilding

The first trajectory – technical environmental peacebuilding – aims to reduce environmental scarcity and degradation, using technical solutions implemented through coordinated action. Technical coordination can involve an agreed-upon division of labour between conflict parties, minimising trans-boundary contacts and dialogue. By reducing environmental problems and associated costs, this first strand of environmental peacebuilding potentially contributes to resolving the environmental causes of conflicts. Hence, technical cooperation tends to have less impact on broader peacebuilding but is also more flexible and viable while violent conflict is ongoing in other domains.

Although this first trajectory of environmental peacebuilding involves limited contacts between conflict parties, coordinated action can impact broader peacebuilding by highlighting the mutual benefits of environmental cooperation and coordinated responses to common environmental challenges. While different actors might engage in environmental cooperation with diverging interpretations of the situation and to protect their own interests (Ide, 2017;

Kramer, 2008), successful cooperation can lead to increased trans-boundary interactions. This in turn can foster trans-boundary interdependence, leading parties to identify shared values and develop future paths for cooperation. However, large-scale technological projects also bear higher financial and political costs. Balancing the interests of all parties – as well as their internal divergences – is a complex process, the outcome of which is not necessarily equitably distributed among all parties (Carius, 2006). When designed in a top-down fashion without involving local authorities and communities, such initiatives risk missing the priorities and needs on the ground and fail to reconcile actors at different levels, as illustrated by the case of service provision by the Nepali government (Krampe, 2016a).

The second trajectory of environmental peacebuilding is grounded on peacebuilding's restorative dimension, as it provides shared spaces to acknowledge past injustices and recognise the other as a legitimate interlocutor (Barnett et al., 2007; Harwell, 2016). Acknowledging the interdependency created by the biophysical environment, environmental issues represent an opportunity to stimulate positive interactions by creating alternative, neutral spaces where conflict parties can exchange on shared values and break down mutual stereotypes (Carius, 2006; Ide, 2017; Maas et al., 2013). In the long term, environmental dialogue can change behaviours and perceptions, fostering socio-political transformations and policy alignment. EcoPeace's 'Good Water Neighbours' project, which promotes sustainable water management between Israeli, Jordanian and Palestinian communities since 2001, has resulted in multiple trans-boundary capacity-building workshops and field visits, with the aim of creating a shared identity based on regional water interdependence (Harari, 2008; Ide, 2017).

The third trajectory of environmental peacebuilding – sustainable environmental peacebuilding – addresses the root causes of potential conflicts by focusing on equitable resource distribution as a pre-requisite for sustainable development and peace (Carius, 2006). Based on symmetrical power relations, joint management systems can be established when parties accept to transfer a part of their influence to the collective in view of achieving a public good. While common-pool resource management relies on collective action and is generally based on a higher level of institutionalisation than the two previous trajectories, it can however be limited by collective action problems arising from conflicting interests (Ostrom, 1990). The case of bi-communal water management in Cyprus gives an insight on how such mechanisms can advance regional integration and environmental governance (Zikos et al., 2015), provided they include both high level and grassroots leadership in decision-making processes. The need to address power asymmetries to ensure sustainable cooperation was identified in a variety of other cases, such as the Israeli–Palestinian Joint Water Committee (Selby, 2013b; Zeitoun and Warner, 2006) and wastewater treatment across the U.S.–Mexico border, where the most effective burden of cost arrangements was found to be the ones addressing underlying asymmetries (Fischhendler, 2007). Although largely overlooked by the environmental peacebuilding literature, common-pool resource management systems, if reached through an inclusive and fair process, thus constitute a key step towards sustainable development and peace.

Based on the proposed framework, the three generic trajectories presented above can trickle down from technical to sustainable environmental peacebuilding through a 'feedback loop'. However, over time, the conditions, mechanisms, and outcomes of environmental peacebuilding interact with environmental and political changes, which can cause parties to deviate from planned strategies and constitute an additional transversal building block. While environmental change may trigger resource conflicts and downscale cooperative efforts

(Homer-Dixon, 1999), in other instances environmental crises may bring conflict parties to cooperate more closely, for instance when increased donor funding diminishes the cost of cooperation (Fischhendler et al., 2011). To reconcile the static nature of the proposed environmental peacebuilding framework with the dynamic and contextual nature of conflicts and peacebuilding, the notion of spillover is discussed in the following section.

5. Discussion: From theory to practice, a critical perspective

Environmental peacebuilding is based on certain assumptions about how its constitutive elements build on each other, a phenomenon called spillover effects (Carius, 2006; Conca and Dabelko, 2002; Ide, 2018). Far from being automatic or politically neutral, these spillover effects are little discussed or demonstrated in the existing literature (Maas et al. 2013). The proposed framework connects each building block through a horizontal but also vertical spillover, moving from more limited forms of technical cooperation based on mutual interests, towards dialogue around shared values, and finally collective action for common-pool resource management. However, environmental peacebuilding rarely follows a linear trajectory, and several trajectories can overlap or be combined, resulting in hybrid trajectories whose actual outcomes do not necessarily match those expected (Carius, 2006; Ide, 2017). Instead of spilling over to broader peace, environmental peacebuilding initiatives that follow such 'hybrid' trajectories can reinforce underlying inequities and conflicts, for instance when they are based on asymmetric relations or fail to acknowledge the local actors and evolving context. The following section takes a critical perspective on these spillover effects and how environmental cooperation is expected to grow across borders, sectors, and governance levels to contribute to durable peace, if at all.

5.1. Spillover across political borders

The first expected spillover of environmental collaboration is based on the claim that 'the environment knows no boundaries', presenting issues such as water pollution or climate change as regional or global challenges (Akçalı and Antonsich, 2009; Harari, 2008; Ide, 2006). When it comes to trans-boundary environmental issues, we have seen that environmental peacebuilding relies on the assumption that self-interested, win-win cooperation will develop into broader forms of peacebuilding based on rational choice (Carius, 2006; Conca and Dabelko, 2002). This underestimates the global–local power interplays and socio-political constructs that can either facilitate or hinder the spillover of environmental cooperation towards peacebuilding (Björkdahl and Höglund, 2013; Maas et al. 2013; Wessels, 2016).

Moreover, for this spillover to take place, the difficult process of switching from socio-political to ecological boundaries within environmental peacebuilding is required (Hagedorn, 2008, 2013). With reference to the concept of fit (Young 2002), it has been observed that institutions for collective action might work differently than expected in conflictual settings. An analysis of divided Cyprus for instance distinguishes two seemingly contradicting, yet co-existing perspectives on fit: 'island fit' supporting institutions that address the Cypriot Social Ecological System as a whole, and 'patronage fit' which embodies institutions linking Cypriots to their respective patrons – Turkey and Greece – and legitimises the artificial breakup of the system into two parts, explaining misfits in water resource institutions (Zikos and Roggero 2012).

Here, a central challenge but also opportunity is that social identities and perceptions are constantly being reconstructed along political, economic, social and/or environmental lines and through collective action (Green, 2015; Stetter et al., 2011; Wessels, 2016). Environmental peacebuilding initiatives therefore need to account for the fluid interrelations between the local, national, regional, and international political spaces and scales, and identify and/or establish common ecological zones capable of breaking down these political scalar divisions (Harari, 2008; Ide, 2017; Mac Ginty and Richmond, 2013).

5.2. Spillover across sectors

The second expected spillover of environmental cooperation rests on the interconnectedness of the biophysical environment with all aspects of human life, such as the economy, justice, and health (WHO, 2016). This complicates the attribution of causal explanations, but also represents an opportunity for environmental peacebuilding.

We have seen that environmental peacebuilding is interlinked with environmental and political change, which can affect environmental cooperation positively or negatively. The fact that cooperation and conflict can coexist also affects how peacebuilding unfolds over time (Zeitoun and Mirumachi, 2008; Zeitoun and Warner, 2006), although the expected spillovers are limited in the case of ongoing conflicts (Carius, 2006). Environmental peacebuilding can indeed be impacted by a resurgence of violence limiting the willingness to cooperate to technical necessities, but also be expanded in the event of an environmental crisis that, coupled to sanitation issues, would create a sense of urgency and need to increase the scope of cooperation (van Wijk and Fischhendler, 2017).

When the actual benefits of environmental cooperation exceed its expected outcomes, parties can also decide to expand trans-boundary exchanges to other sectors to maximise peace dividends, on the contrary reduce cooperation when its expected benefits are not met, causing frustration and a decreased trust. The impact of such changes is problematic for isolating the actual effects of environmental cooperation on peacebuilding, but reconciling the multiplicity of internal and external factors with a systematic approach to environmental peacebuilding is needed to further substantiate the existence of an environment-peace nexus with empirical evidence.

5.3. Spillover across scales

The third and final expected spillover pertains to the effects of environmental peacebuilding across scales. The scarcity school envisioned environmental issues and shared natural resources as high politics and a potential source of conflict. With the rise of environmental security, environmental challenges have become closely associated with state security and human survival, calling for a top-down approach to cooperation (Bruch et al, 2016; Conca and Dabelko, 2002; Matthew et al., 2009). Environmental cooperation on issues of high politics is however difficult to initiate in fragile conflict and post-conflict environments. A central aspect in such settings is therefore to downscale environmental cooperation to low politics.

Environmental peacebuilding can be envisioned as a discursive construct in which the biophysical environmental is conceived in terms of scientific definitions and human needs, rather than in terms of state security. The first (technical) trajectory enables this framing of

environmental cooperation in apolitical terms to stimulate dialogue among experts across conflict borders and increase acceptance of cooperation among a wider set of actors by staying below the radar of high politics (Aggestam, 2015; Conca, 2001). Similarly, the second (restorative) trajectory can be framed as low politics when revolving for instance around ecologic values and people-to-people interactions. Finally, the third (sustainable) trajectory of environmental peacebuilding requires the involvement of local communities and high-level leadership to ensure collective action. Such initiatives can be imposed through a top-down approach as part of an international peacebuilding agenda, and are then expected to trickle down to local actors (Mac Ginty, 2015), or be the result of pre-existing informal types of cooperation at the local level in a bottom-up process. Yet, low and high politics are not by definition competing rationales, but should be combined and adapted within each context to foster a multilevel governance system of natural resources if sustainable peace is to be achieved (Bruch et al., 2016).

Envisioning environmental cooperation as an entry point for peacebuilding thus rests on the assumption of a potential spillover from low to high politics, but also between grassroots, intermediate, and top-level leadership (Lederach, 1997). Acknowledging the need for socio-political transformation at different levels of governance should not conceal the obstacle constituted by pre-existing asymmetries. Widespread mechanisms of cooperation such as technocratic strategies, used for instance to facilitate water cooperation in Cyprus, can also reinforce existing asymmetries if they are not the result of equitable decision-making processes (Mac Ginty, 2015; Zikos et al., 2015). The case of Israeli–Palestinian water cooperation further illustrates the difficulty to reconcile different approaches to environmental issues as low politics for Israel – corresponding to a needs-based approach – and high politics for the Palestinian rights-based approach (Aggestam and Sundell-Eklund, 2014; Carius, 2006; Harari, 2008).

Conflict parties might enter environmental cooperation based on a self-interested agenda, but change their perception over time through repeated cooperation and the spillover effects of environmental peacebuilding across borders, sectors, and scales. When used as a peacebuilding tool, environmental cooperation should thus be approached as a dynamic, mutually constituting process (Jägerskog, 2013) which is shaped by the biophysical environment and social identities, but also redefines the social and biophysical environment.

6. Conclusion

Over the past two decades, environmental peacebuilding has gained considerable importance among both researchers and practitioners, and the expectation that environmental cooperation will foster regional peace and stability has led to increases in the allocation of international funding to such initiatives. Peacebuilding traditionally focused on the costs and benefits of cooperation as a trigger for peace based on rational choice theory. More recently, an emerging strand of critical peacebuilding studies led to a local turn in peacebuilding. Several other disciplines such as political ecology, hydropolitics, and institutional and ecological economics also contributed to advancing our understanding of why and how environmental cooperation can advance peacebuilding.

Drawing on a review of these different strands of the literature, this article deconstructed environmental peacebuilding to its constitutive building blocks – its initial conditions,

mechanisms and expected outcomes. These building blocks were then reassembled into three generic trajectories were identified: i.e. technical, restorative, and sustainable environmental peacebuilding. Although these trajectories are not comprehensive and can be 'hybridised' into new trajectories, they provide an analytical framework for comparing how environmental peacebuilding initiatives are theoretically constructed and practically applied. Nonetheless, several theoretical gaps remain to be bridged before assessing if and how environmental cooperation can contribute to sustainable development and peacebuilding. In particular, we discussed the potential spillovers of environmental peacebuilding across political borders, sectors, and scales.

Organising the constitutive elements of environmental peacebuilding into a systematic framework is constrained by the multi-causal mechanisms and fluid environmental and political processes by which they are affected. The proposed framework is therefore not conceived as a comprehensive tool for designing or evaluating environmental peacebuilding initiatives. Instead, it aims at defining key terms based on a multidisciplinary dialogue, providing a matrix for analysis, and outlining a future research agenda on environmental peacebuilding. The causal linkages between the building blocks of environmental peacebuilding and the occurrence of spillover effects should be empirically assessed and completed through in-depth and comparative case studies. This will bring researchers and policy makers to consider the full scope of physical, socio-political, and cultural dimensions impacting the conditions, mechanisms, and outcomes of environmental peacebuilding, and further substantiate this emerging theoretical framework.

Chapter III
The power of the local in environmental peacebuilding

View of the railway near Battir, March 2016

Battir Natural and Cultural Landscape Plan progress report meeting, January 2017
(Source: Battir Landscape Ecomuseum, 2017)

Dresse A and Nielsen JØ. (In review).

Third World Quarterly. Submitted in January 2021.

Abstract
Transboundary environmental cooperation is presented in the environmental peacebuilding literature as a mutually beneficial enterprise that contributes to preventing and deescalating and violent conflict. Emphasis is placed on cooperation between conflicting parties around the reduction of environmental problems with an expectation that this might lead to broader cooperation and peace. This article examines how environmental cooperation and peacebuilding unfold at different scales in the context of the Middle East conflict. It focuses on the Palestinian village of Battir. In 2015, the village obtained a freeze on Israeli military plans to build a separation wall through its valley, following a lengthy court process. This case was closely linked to the area's nomination as a UNESCO Cultural Heritage Site in Danger the previous year, which helped to preserve its cultural and environmental integrity. This illustrates the interconnected nature of the biophysical and social environments. The article highlights that despite apolitical narratives in environmental peacebuilding theory and practice, politics continue to play an important role in environmental cooperation. Focusing on the interlinkages between bottom-up and top-down environmental cooperation in Battir, we draw on critical peace studies to advance environmental peacebuilding research by introducing the notions of local agency and hybrid peace.

1. Introduction

The environmental peacebuilding literature emphasises the potential contribution natural resources can make to peacebuilding and is gaining increasing attention by practitioners, policy makers and academics (Dabelko, 2006; Dresse et Al., 2019; Ide, 2020; Krampe, 2017). Environmental peacebuilding emphasises that conflicting partners have an interest in approaching shared natural resources through cooperation rather than competition (Carius, 2006). As such, environmental peacebuilding attributes environmental services with particular peacebuilding qualities, such as their possible reframing in apolitical terms. This allows for win-win solutions across socio-political borders (Conca, 2002; Ide, 2019). It has been shown, for example, how in a variety of contexts like Colombia, Sierra Leone and East Timor, cooperation around shared natural resources has helped post-conflict peacebuilding (Brown et al., 2012; Krampe and Gignoux, 2018; Maldonado and Martinez, 2016; Miyazawa, 2013). These findings are reflected in research on the Middle East peace process (Djernaes, 2015; Harari and Roseman, 2008; Ide et al., 2018; Zohar et al., 2010).

Post-conflict, interstate environmental peacebuilding efforts have received the most attention in environmental peacebuilding literature (Krampe, 2017; Zeitoun and Mirumachi, 2008). An important portion of this literature has been written by practitioners who often focus on top-down environmental peacebuilding projects (e.g. Conca and Dabelko, 2002; Jensen and Lonergan, 2012; Matthew et Al., 2009) exemplified by the book series on Post-Conflict Peacebuilding and Natural Resource Management (Lujala and Rustad, 2012; Jensen and Lonergan, 2012; Unruh and Williams, 2013; Weinthal, Troell and Nakayama, 2014; Young and Goldman, 2015; Bruch, Muffett and Nichols, 2016). Environmental peacebuilding case studies, such as those contained in this book series, have been critiqued for a lack of empirical evidence and being oriented towards practitioners and decision makers rather than academics (Johnson et al., 2021). Indeed, empirical knowledge on the interlinkages between environmental cooperation initiatives and sustainable peace is scarce, especially at the local scale (Aggestam et al., 2015; Maldonado and Martinez, 2016; Wessels, 2016). How and if projects focused on environmental cooperation contribute to peacebuilding remains therefore largely unknown (Carius, 2006; Ide and Tubi, 2020). New research is beginning to address this gap by providing insights into how environmental peacebuilding plays out at the scale of villages and small communities (Dresse et al., 2019; Ide, 2018; Johnson et al., 2021). Providing much needed insights, this research highlights how local agency and practices are embedded in and shape environmental peacebuilding (Aggestam et al., 2015; Maldonado and Martinez, 2016; Wessels, 2016).

This paper contributes to this emerging "bottom-up" environmental peacebuilding literature by focusing on the Palestinian village of Battir, located in the Al-Makhrour valley neighbouring Israel. Presenting qualitative data from this village and surrounding valley, we explore how transboundary environmental issues were framed, by who and for whom. Our data shows how conflict de-escalation, dialogue, and the prevention of the construction of a separation wall planned by the Israeli Defense Forces pivoted around the natural environment. During this process, the population of Battir leveraged external actors, such as Israeli environmentalists through EcoPeace Middle East's flagship 'Good Water Neighbours' project, and other non-regional governmental organisations, such as the UNESCO. Engaging these actors allowed the villagers to establish dialogue and trust with their Israeli counterparts, but also to position

themselves against the Israeli authorities and ultimately prevent the Israeli–Palestinian conflict from impacting the cultural and natural landscape of Battir.

We explore the interlinkages between international and national authorities and organisations and local agency through the notion of hybrid peace, which we understand as the combination of top-down and bottom-up approaches to peace (Mac Ginty, 2010; Richmond, 2015). Hybrid peace has been widely covered in peace studies but is mostly absent from discussions around the concept of environmental peacebuilding. Better integrating this concept into environmental peacebuilding research will help us to understand how environmental peacebuilding unfolds, its limitations, and unintended outcomes in places like Battir (Krampe, 2017).

This paper starts by reviewing the environmental peacebuilding literature, with a focus on bottom-up environmental peacebuilding case studies and the concept of hybrid peace. We then present the methods and study setting. Results on environmental peacebuilding in Battir follow. In the discussion, we focus on the insights gained from research done on environmental peacebuilding at the local scale and how this allows for a better understanding of the phenomenon. This is tied to hybrid peace, which we argue helps to understand bottom-up environmental peacebuilding. The paper is rounded up by a conclusion.

2. Literature review

Environmental peacebuilding refers to the process through which shared environmental resources or challenges serve as entry points for cooperation between (potential) conflict parties (Dabelko, 2006; Dresse et al., 2019; Ide, 2019). Environmental issues are often presented in this literature as "low politics." This implies that they are not vital to immediate state survival in contrast to, for instance, security which is labelled "high politics." Cooperation between conflicting parties around shared environmental challenges and natural resources is consequently seen as possible (Coskun, 2009; Dresse et al., 2019; Ide, 2019). Such cooperation can take several forms: It can focus on preventing and/or alleviating environmental degradation and conflicts, stimulate dialogue and trust-building around shared environmental resources or concerns, or – if more ambitious – strive to develop regional integration and institutionalisation of environmental cooperation, for example, with the establishment of transboundary natural resources agreements and commissions (Carius, 2006; Dresse et al., 2019; Ide, 2019). In all these environmental peacebuilding pathways, the potential benefits from cooperation around natural resources and challenges are related to a hope that this might spill over into cooperation in other domains, thus further facilitating processes of peacebuilding.

The potential of the biophysical environment as an entry point for dialogue and peacebuilding has been shown in studies from around the world (e.g. Conca and Dabelko, 2002; Coskun, 2009; Ide et Al., 2018; Krampe and Gignoux, 2018). The focus of this literature is mainly on international, post-conflict peacebuilding (Dabelko, 2006; Ide, 2018; Krampe, 2017; Matthew et al., 2009). Important insights on environmental peacebuilding have been provided by this research, yet how natural resources management initiatives can contribute to local peacebuilding and involve local communities remains largely unknown (Johnson et al., 2021; Ide, 2019; 2020). While local communities are often the most exposed to conflicts and their environmental causes and consequences, the empirical as well as theoretical linkages between conflict, natural resources, and peacebuilding at the local level remain understudied (Green, 2015; Maldonado and Martinez, 2016).

Conducting research at this scale can be challenging (Gerring, 2006; Ide, 2018) but the lack of research on environmental peacebuilding at the local level is mainly related to the fact that this research is largely oriented towards practitioners and policy makers (e.g. Burt and Keiru, 2011; Harari and Roseman, 2008; Jensen and Lonergan, 2012). This applied and project-oriented focus is also visible in academic literature (e.g. Akçalı and Antonsich, 2009; Ide and Tubi, 2020; Zohar et al., 2010). A key finding emerging from this literature is that environmental peacebuilding projects often fail to materialise into political will or institutionalised forms of cooperation, thus leading to conclusions concerning project design (Carius, 2006; Dresse et al., 2019). Such insights are needed as environmental peacebuilding gains increasing attention from practitioners and policy makers (e.g. Feil et Al, 2009; UNEP, 2016). However, these insights need to be complemented by research that focuses more directly on the role of local communities (Ide and Tubi, 2020; Scambary and Wassel, 2018). Understanding how communities perceive, use and access natural resources, and how this impacts conflict and peace, is crucial if we are to advance environmental peacebuilding both theoretically and in practice (Green, 2015; Miyazawa, 2013). Literature on environmental peacebuilding highlights that many local communities focus, for instance, on the role of traditional knowledge and natural resource management systems in contributing to peacebuilding (Burt and Keiru, 2011; Maconachie, 2010; Moosa, 2018). The traditional community-based system of *Tara Bandu* used in East Timor to advance conflict resolution is an example of this (Scambary and Wassel, 2018; Krampe and Gignoux, 2018; Miyazawa, 2013). Battir's ancient irrigation system is another example of a community based natural resource management system that has helped shape environmental peacebuilding (MoTA, 2013). Such research highlights that through daily practices of natural resource management local communities establish and/or reinforce linkages between their biophysical environment and their identity. This helps create a shared identity within and between communities that share the same biophysical environment (Green, 2015; Maldonado and Martinez, 2016; Moosa, 2018; Wessels, 2016). Indeed, local practices and institutions have, in general, been shown to contribute more to establishing and building trust between conflicting parties when compared to practices and institutions initiated by the state or international projects (Miyazawa, 2013). This highlights the importance of critically assessing local agency and practices in environmental peacebuilding (Aggestam, 2018; Mac Ginty, 2015).

Research taking place at this scale has also revealed that a heterogeneity of actors and perceptions regarding environmental peacebuilding is likely to be found (Johnson et al., 2021). Environmental peacebuilding is highly spatialised and closely linked to local ecosystems and natural resource management but also to identity and politics. The "local" is therefore neither a given or passive in environmental peacebuilding (Björkdahl and Höglund, 2013; Mac Ginty, 2015) but materialises through everyday interaction, empathy, and resistance to liberal peacebuilding and externally imposed norms and institutions (Dresse et al., 2019; Mac Ginty and Richmond, 2013). Local actors perform this engagement through repeated encounters, thus locating peace in everyday practices (Björkdahl and Buckley-Zistel, 2016; Richmond, 2015). Local communities are thus not passive only recipients of international peacebuilding initiatives but are also often central actors of peacebuilding – especially where state structures have been weakened by conflicts (Burt and Keiru, 2011; Maconachie, 2010; Miyazawa, 2013).

The notion of hybrid peace is useful for capturing this complexity. Further, the intertwinement of scales of peacebuilding that take place in environmental cooperation (Aggestam, 2018;

Dresse et al., 2019; Johnson et al., 2021) highlight how peace processes often entail a combination of international norms, values and interests with local agency and identity, or top-down and bottom-up approaches to peace (Mac Ginty, 2010; Richmond, 2015). Research on hybrid peace also reveals how peace is a continuous process of balancing interests and values, cooperation and conflict, and the notion of power (Mac Ginty, 2010). Indeed, research on environmental peacebuilding that focuses on local practices related to local natural resources management systems has shown that these are embedded in everyday practice and deeply intertwined with the national, regional, and international scales (Green, 2015; Maldonado and Martínez, 2016; Scambary and Wassel, 2018). This scalar intertwinement between local and international peacebuilding processes is also put forward in several studies from the Middle East (Ide and Tubi, 2020; Reynolds, 2017; Wessels, 2016).

3. Methods

The data for this paper is derived from qualitative research conducted in the Middle East during 2016 and 2017 and, particularly, in the village of Battir, which is located in the West Bank. After a review of existing environmental peacebuilding projects in the region, ten preliminary interviews were conducted by phone and in person in Jerusalem and Bethlehem with representatives of donor agencies and multilateral and non-governmental organisations (NGOs). These were followed by preliminary fieldwork in three sites where environmental and/or peacebuilding projects had been implemented by regional and international NGOs. This preliminary research spanned a period of six months from the middle to the end of 2016. Based on this, the village of Battir was selected as case study and regular field visits were conducted by the first author over three months from December, 2016 to February, 2017. Battir was selected due to its biophysical setting, the existence of long-term environmental cooperation at different scales, and its critical location along the 1949 Armistice line. A detailed review of literature pertaining Battir followed. Review documents included the UNESCO nomination file, Battir Natural and Cultural Landscape Plan (BNCLP) progress reports, site maps, EcoPeace Middle East publications, official reports by public authorities, articles produced by academics, non-governmental organisations and the media pertaining to Battir (e.g. EcoPeace, 2012a; 2012b; 2013 and 2014).

Qualitative data on the Battir case was collected mainly via semi-structured interviews (Bryman, 2012; Gerring, 2006). Interviewees were selected to reflect the diversity of socioeconomic profiles in the village, including gender, age, place of residence, occupation and political affiliation.[6] For this, 32 interviews were conducted with a total of 43 people involved in environmental cooperation activities in Battir:[7] 30 interviewees were inhabitants of Battir; five were Palestinians residing in Ramallah, Bethlehem or Jerusalem; six interviews were also done with Israelis involved with environmental peacebuilding initiatives in the area (mostly EcoPeace affiliates residing in Tel Aviv, Jerusalem and Tsur Hadassah); and two interviews were conducted with international stakeholders closely involved in the matter through their work in international and donor agencies.

[6] Researching cross-border cooperation in the Israeli-Palestinian context is limited by the negative perception of cooperation by some actors on both sides. Therefore, attention was given to the setting, anonymity, recurrence through follow-up interviews and diversity of interviewees' socio-political profiles to mitigate this potential bias.
[7] The difference between the number of interviews and interviewees is due to the fact that interviews in Battir where done at family's house where several family members participated.

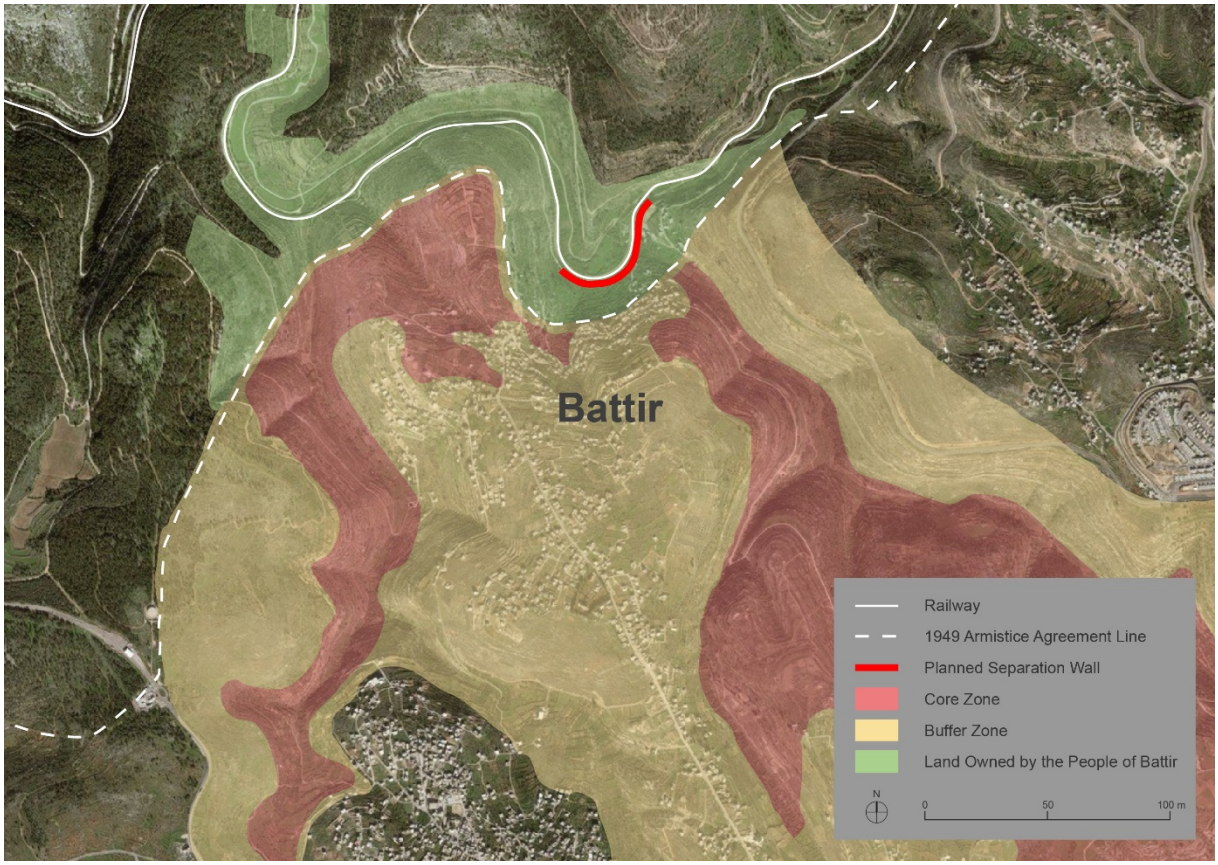
The interviews conducted with villagers focused on the main environmental resources and challenges, as well as the perceived impact of the conflict between Israelis and Palestinians over natural resources, and their experience with cross-border cooperation. Questions also aimed at understanding their perception of environmental cooperation in the wider region, and when, why, how and by whom such cooperative attempts were initiated. Interviews conducted with officials and project representatives focused on the legal aspects of the case, as well as technical issues related to environmental cooperation. All semi-structured interviews were conducted by the first author in English or Arabic. They lasted between 45 minutes and an hour and a half.

Two focus group discussions were conducted in Battir, with groups of smallholder farmers and women, respectively. These consisted of six and ten people, respectively, and lasted around two hours. Participant observation was also conducted and consisted of spending time as a guest with Battiri families, taking part in meetings, and ecotourism in the village. Participant observation provided insights into the daily lives of Battiris and helped us to gain access to relevant interviewees (Bryman, 2012; Gerring, 2006). Four walks with civil society representatives, farmers and local authorities were also conducted in the valleys surrounding Battir. These started from the village's centre and proceeded through the agricultural terraces and towards the train tracks, covering key sites in and around the village. All data was transcribed in English and analysed using RQDA (Huang, 2016).

4. Setting

Battir is a former railway station village located a few kilometres away from Jerusalem, within the agricultural valley of Al-Makhrour (see Map III-1). The train that winds through the valley carries Israeli passengers from Jerusalem to Tel Aviv but the Battir railway station closed after the 1949 Armistice Agreement (MoTA, 2013). Battir's landscape is the result of millennia of human–environment interaction and dates back to the Canaanites and the Roman Empire. Its ancient, yet mostly still functional, irrigation system of over 664 km^2 of agricultural terraces was nominated by the UNESCO in 2014 to the World Heritage in Danger list after a long court case (see sections 5 and 6 of this chapter) (MoTA, 2013). With over ten water springs, Battir's traditional irrigation system continues to be used for farming all year around. Battir's agricultural terraces are maintained by the village's eight historical families, according to a traditional eight-day irrigation calendar that equally distributes the water between all community members (MoTA, 2013).

The villagers of Battir have cultivated lands beyond the 1949 "Green Line" demarcating the West Bank from Israel. This is enabled by a special provision of the 1949 Rhodes Agreement, making Battir one of few Palestinian villages to preserve a part of its lands within what is today Israeli territory (MoTA, 2013). While many of the 4,993 inhabitants (PCBS, 2017) remain involved in maintaining and cultivating the terraces, agriculture now represents less than 10% of Battir's economic activity (ARIJ, 2010). Despite a high education rate, around 40% of the population is unemployed and many of those who do work are employed on the Israeli labour market or in nearby settlements (ARIJ, 2010).



Map III-1: Battir and UNESCO nomination area (Own map based on Microsoft® Bing™ Maps and MoTA, 2013)

5. Environmental peacebuilding in Battir

Since the 1995 Oslo II Accord, numerous peacebuilding projects have been funded in the Middle East, many of which have focused on regional environmental cooperation (EcoPeace, 2014; Interview 5, 23 and 30). Water, climate-change adaptation and mitigation, sewage treatment and biodiversity conservation are common issues used as entry points for projects that focus on interpersonal dialogue between Israelis and Palestinians (Interviews 9 and 27). Projects also focus on capacity-building activities enabling, for example, ecotourism as an opportunity for interpersonal contacts between Palestinians and Israelis (Interviews 9 and 35). Ecotourism was promoted by international partners as an activity that could potentially contribute to peacebuilding (Interviews 9, 14 and 27). Indeed, the mutual benefits for Israeli and Palestinian guides working together in ecotourism constituted a key incentive for cooperation. For instance, these guides could exchange visitors who want to visit sites in both Israel and Palestine as it is impossible for many guides to cross to the other side with tourist groups (Interview 9). Activities also included joint trainings, often around bordering sites of interest such as the Makhrour valley or the Jordan River Basin. The shared interest of participants in environmental issues has also sparked exchanges on apolitical issues which has, in turn, contributed to interpersonal trust (Interviews 9 and 23; Participant observation). Ecotourism also represents an outlet for local agricultural production and is an alternative source of income for local smallholder farmers (Focus Group).

EcoPeace's 'Good Water Neighbours' (GWN) project is another example of environmental peacebuilding project in the region. Launched in 2001, the project was implemented in 28 communities and focused on education, hiking trails, and promoting dialogue at the level of local authorities (Djernaes et al., 2015). In Battir, it started as a cross-boundary project with the neighbouring Israeli town of Tsur Hadassah before, as will be shown below, being entangled in the conservation of the landscape. According to interviews with both sides, this facilitated dialogue and win-win solutions but not long-term or equal partnership (Interviewees 5, 11, 24 and 25). This was clearly understood by non-governmental organisations interviewed. Indeed, focusing on environmental issues is often an active choice taken by these organisations to avoid political deadlocks (Preliminary Interview 2 and Field Visit). Using common challenges, the shared biophysical environment, and natural resources as a platform for communication between Palestinians and Israelis was thus common. This can be explained the low politics nature of such issues in a context of protracted and highly politicised conflict in other domains (Preliminary Interview 2 and Field Visit). One interviewee who worked on the GWN project expressed this as follows: "When we first started to talk about water, it was a neutral environmental issue, but now especially things have gotten more politicised […] so we try to keep it in the realm of the professional environmental issue […] we try to find the positive […] to find what you can agree on so you can start to work together and build trust" (Interview 27).

In other words, joint activities around the biophysical environment enabled participants to meet people from the "other side" who had similar interests and values (Interviews 2). Yet such people-to-people exchanges were often not followed by concrete political actions (Interview 30). Indeed, environmental cooperation at the institutional level was complicated by the persistence of the conflict (Interviews 8 and 30). As is the case elsewhere in the region, the transboundary projects in Battir were hindered by practical obstacles imposed by the conflict, such as the impossibility of building necessary infrastructures in some parts of Area B in the West Bank (which is under joint security control) and especially Area C, which is under full Israeli civil and security control. Concretely, this made it impossible for Battiris to host large groups of tourists without spoiling the environment, as this would require more roads and increased sewage treatment capacity (Interview 19 and BNCLP progress reports). Territorial and linguistic barriers also often prevent participants from meeting during and after project activities such as joint trainings, as confirmed by a local tour guide in Battir: "We discuss how we can do something together about the tourism (but…) there is no way we do something together because of the borders, because of the situation. I cannot cross [to] Jerusalem, he cannot cross easily here" (Interview 9).

Local organisations and participants in cross-border cooperation were also faced with potential retaliation and weakened legitimacy in their own respective communities (Interview 8, 30 and 35). Interviewees feared that participants who engage in events labelled as peacebuilding might endanger their personal safety as people working with organisations that cooperate with the other side were perceived as "collaborators" by a portion of the population (Interview 8, 30 and 35). People working with external partners such as regional and international NGOs on projects that did not revolve around peacebuilding were less directly exposed (Interview 17 and 19). Consequently, many environmental projects were articulated around an apolitical narrative. This can be clearly seen in most of EcoPeace Middle East's projects, but also projects that bring together participants from Israel, Palestine, and Jordan and that are implemented by

organisations such as the Hanns-Seidel Foundation and the Arava Institute for Environmental Studies (Field Visit). In all of these projects, issues related to the technical and financial advantages of environmental cooperation were highlighted to ensure participation (Interviews 5 and 9). Indeed, many of the organisations explicitly mentioned that the biophysical environment enabled a low-profile approach: "It doesn't have to be labelled cross-border, sometimes when we want that change, when we want something to happen, it is better to lower our profile" (Interview 27). So-called "low politics" around environmental issues were thus clearly seen as a possible entry-point for peacebuilding for external organisations involved in peacebuilding projects.

The best example of this is probably EcoPeace's 'Good Water Neighbours' project that was established in Battir around 2006. In 2007, a military order was issued to extend the Israeli separation wall[8] through the Al-Makhrour valley and along the railway tracks. The villagers of Battir opposed this and launched a long legal battle, with the support of EcoPeace. This case was heard by the Israeli High Court of Justice. EcoPeace funded a lawyer to help the village's case, and organised events and joint walks from Jerusalem to Battir to draw the attention of the Israeli and international public opinion ahead of the court appearances (Interview 5 and 27). In 2012, together with Israeli residents from the neighbouring village of Tsur Hadassah, EcoPeace submitted a petition that opposed the planned route of the wall. The petition clearly focused on the environment in opposing the separation wall and was signed by 300 Israeli residents (Reynolds, 2017). An EcoPeace representative explained: "We were just starting to expand [the GWN project to Battir] when we met with the mayor and their lawyer. He had prepared a traditional petition based on access to Palestinian lands and livelihoods. EcoPeace developed a different strategy based on landscape and environmental-cultural heritage. One stretch (of the fence) next to the train was going to be concrete, which would have an irreversible impact" (Interview 34).

The Israeli Nature and Parks Authority (NPA) testified similarly in front of the court to confirm the environmental risks of the planned separation wall route (Interview 30). Even though their political motivations were different from those of Battir residents (Interviews 24 and 25), Israeli settlers living in the nearby illegal settlement of Beitar Illit opposed the construction of the separation wall as it would harm the valley's landscape. As the security arguments presented by the Israeli Defense Forces continued to remain predominant, the village's lawyers decided to strengthen their environmental arguments (Interviews 2, 5 and 19). The negative impact that building a physical separation between Israel and the West Bank would have on environmental corridors continued to be mentioned in court. A local Battir resident recalls that lawyers equated the wall with a river cutting the valley in two (Interview 19). It was also argued that this would harm local fauna and flora. The lawyers, residents from both sides, EcoPeace, and other organisations wasted no opportunity to show that this flora and fauna was cared for by Israeli and Palestinian environmentalists alike. An interviewee from Battir remembers the example of a fox used in court: "A fox coming to drink from the Battir spring and going back inside Israel. We kill the fox if we build a wall. The judge said if these people care about foxes, about the animals, I don't believe these people are a danger for Israel" (Interview 31). This

[8] The term "wall" is here used in line with the terminology of the International Court of Justice's 2004 Advisory Opinion, which ruled against its legality under international law, as well as the WHS Nomination Document (MoTA, 2014) and language used by interviewees. 'The "wall" in question is a complex construction, so the term cannot be understood in a limited physical sense. However, other terms used, either by Israel ("fence") or by the Secretary-General ("barrier"), are no more accurate (International Court of Justice, 2004).

alleged statement was supported by the general pacifist approach of the Battiris. Israeli participants in EcoPeace's initiatives were, for example, not attacked when they went to Battir, but were, on the contrary, welcomed by residents (Interview 19). A major reason for this was the understanding of this initiative as "peace for future generations" by Battir residents who argued that securing the village's landscape, traditions around agricultural practices, and access to the land was the focus, rather than "peace with Israel" (Interviews 2 and 17). The urgency derived from the shared environmental risks, in this case the imminence of the wall's construction and its associated impacts, thus brought parties with conflicting political agendas together.

In parallel to focusing on local environmental preservation as a mutually beneficial objective for both sides, the village's local authorities and lawyers brought their struggle against the separation wall onto the global stage. This proved instrumental. Efforts to nominate the valley as a UNESCO World Heritage Site had started years before the court case as a separate "conservationist project" that focused on the landscape's unique natural and cultural value. The ancient irrigation system and terrace agriculture was argued as having have global values as a symbol of millennia-old human–nature interaction. As the threat of the separation wall materialised, the nomination process picked up speed and the case was processed on an emergency basis as a World Heritage Site in Danger. This became a key argument in court (Interview 19). Mapping of the site and data collected on its cultural and natural characteristics provided evidence to support the need to preserve it. Throughout the World Heritage Site nomination document, titled "Palestine, Land of Olives and Vines", the intactness of the valley was continuously reinforced (MoTA, 2013). The site's nomination in June 2014 asserted its unique global value and the threat to traditional human–environment interactions represented by the planned route of the separation wall. As a state that is party to the World Heritage Convention, Israel had an obligation to preserve the integrity of the site (UNESCO, 2017). Military plans were consequently frozen in the valley according to a decision by the Israeli High Court of Justice in January 2015. Instead of a physical separation wall, alternative "soft" security measures such as surveillance cameras and a military patrol unit were positioned along the train track. This entanglement of local, national, and international processes was not only to the advantage of the villagers. EcoPeace Middle East representatives expressed in interviews that Battir was a good example of achieving peacebuilding objectives by focusing on the biophysical environment (Interviews 27 and 34).

6. Discussion: A hybrid approach to environmental peacebuilding

In Battir, transboundary environmental resources and challenges were used to enable cooperation between Palestinians and Israelis as well as to obtain local objectives such as maintaining access to land. To preserve the valley's integrity and the traditions connected to it, Battiris pursued strategies at different scales, aligning their own objectives with those of Israeli and international partners. The biophysical environment was key to the success of this approach. As such, the initiatives described in our results align with previous findings on how a shared natural environment can enable cooperation and, through this, contribute to a more peaceful co-existence between otherwise conflicting parties.

Insights such as these are currently lacking in environmental peacebuilding literature as it has largely focused on top-down and project-oriented research rather than evidence-building on

how environmental peacebuilding plays out on the ground (Aggestam and Sundell-Eklund, 2014; Ide, 2020; Reynolds, 2017). This lack has resulted in calls for more research on how environmental peacebuilding plays out at different scales, including how linkages between local natural resource management and wider peacebuilding emerge (Dresse et al., 2019; Ide, 2020; Johnson et al., 2021). A recent strand of the literature has shown that peacebuilding at the local level involves a heterogeneity of actors who often have diverging interests that might become aligned through environmental cooperation initiatives (Green, 2015; Johnson et al., 2021). In our case, Palestinian and Israeli environmentalist, but also Israeli settlers from neighbouring settlements, temporarily combined their efforts for the preservation of the natural integrity of the valley, albeit with various objectives and understandings of the process and stakes in mind. However, this did not as such necessarily contribute to building long-term peace. Considering local understandings and motivations illuminates how environmental cooperation and peacebuilding play out on the ground through everyday practice and how these processes might benefit from empowered local communities (Björkdahl and Höglund, 2013; Mac Ginty, 2014). The importance of local participants' adherence to such initiatives was clearly illustrated by the focus on how natural resources were threatened by the conflict. This was effective for addressing target groups who were reluctant to engage in peacebuilding. Labelling cross-border cooperation as environmental cooperation rather than peacebuilding also was used by NGOs to avoid singling out participants cooperate on activities as "collaborators," which would undermine peacebuilding efforts (Reynolds, 2017).

Despite the persistent reference to the apolitical natural setting of the valley, socio-political dimensions were ever present. In the examples described, it was clear how resistance to the separation wall and Israeli occupation of their land was a key objective among the population of Battir. Besides engaging in ecotourism and other activities, focusing on the environment was, for most residents of Battir, also a way to achieve political aims. For these residents, maintaining access to their lands that were now on Israeli territory was a high priority. This finding puts into question the apolitical narrative that is often privileged in the environmental peacebuilding literature (Dresse et al., 2019; Ide, 2017). The apolitical nature of the biophysical environment is generally understood to be the key mechanism through which environmental cooperation is expected to contribute to broader peacebuilding and is at the core of many environmental peacebuilding projects, including those explored in Battir (Harari and Roseman, 2008; Ide and Tubi, 2020; Zohar et al., 2010). However, our results also show the close bond between politics and natural resources, as well as the multiple reasons, including political ones, that can cause a local community to engage in transboundary environmental cooperation. This leads to two parallel narratives surrounding the same landscape: one of low politics and one of high politics. For environmental peacebuilding, which mostly focuses on the apolitical potential of the natural environment, this means that understanding how local communities perceive, use and access natural resources as tools for achieving various objectives, including political ones, is crucial if we are to advance environmental peacebuilding both theoretically and in practice (Green, 2015; Miyazawa, 2013).

The "local" is, in other words, not merely a passive apolitical recipient of external peacebuilding projects and our results emphasise the role of the "local" in environmental peacebuilding research by showing its agency and heterogeneity (Aggestam et al., 2015; Mac Ginty, 2015; Selby, 2013). Local communities are central actors of environmental cooperation in Battir and elsewhere where state structures have been weakened by conflicts (Burt and Keiru,

2011; Maconachie, 2010; Miyazawa, 2013). Focusing on the local scale illustrates not only the importance of local agency but also how closely intertwined it is with, or even facilitated by, processes and actors found at different scales. In our case, this results in the combination of top-down and bottom-up approaches to environmental peacebuilding, as illustrated by the entanglement of the court case with the UNESCO nomination process and 'Good Water Neighbours' project (see Figure III-1 below).

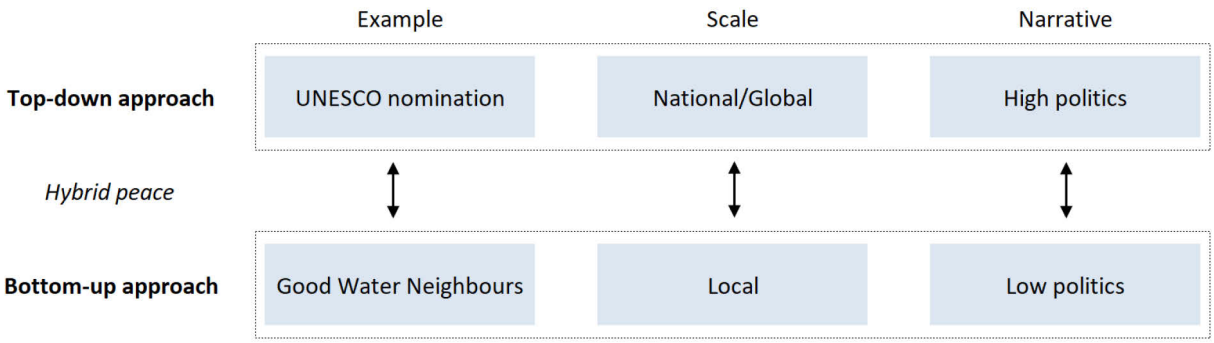


Figure III-1: Bottom-up and top-down approaches to environmental peacebuilding

This insight opens up new pathways for research on environmental peacebuilding, in particular on what can be gained if research on hybrid peace, that captures this intertwinement of bottom-up and top-down processes, is better integrated into the environmental peacebuilding literature. Hybrid peace research illustrates the alignment of local and international norms, values, and interests to reach mutually beneficial arrangements (Mac Ginty, 2010; Richmond, 2015). It is thus a fruitful term for understanding how environmental peacebuilding plays out and why it plays out the way it does (Björkdahl and Buckley-Zistel, 2016; Richmond, 2015). Power, identity, and resistance are key concepts for developing this hybrid approach to environmental peacebuilding as they reconcile top-down and bottom-up initiatives with the notion of local agency (Mac Ginty, 2010; 2015).

7. Conclusion

The case of Battir illustrates how transboundary environmental issues can be a source of collaboration, enabling cooperation between conflict parties at the local level even when larger socio-political conflicts are ongoing. A clear case of environmental peacebuilding and the potential of articulating the environment as apolitical, this has resulted in projects and dialogue and has also prevented construction of the separation wall through the valley. The latter process was heavily influenced by the involvement of Israeli environmentalists through the regional NGO EcoPeace Middle East, but also by the establishment of the valley as a UNESCO Heritage Site in Danger.

The local authorities and community of Battir played a central role in both processes, but our results nevertheless illustrate that the environment was politicised to secure territorial rights for the villagers of Battir despite an apolitical narrative being used in court and joint events. This politicisation calls into question the dominant focus in the environmental peacebuilding

literature on cooperation around natural resources as low politics. It also highlights the need for more case studies at this scale to really understand how it plays out. A multiplicity of actors and values indeed interact at the local scale, often drawing on actors and values found at other scales and sometimes with competing agendas. In Battir, environmental peacebuilding was an intertwinement of local, regional, and international actors and organisations, thus highlighting the fluidity between bottom-up and top-down peacebuilding processes. In this manner, the environmental cooperation in Battir that resulted in the cancellation of the construction of a separation wall through the valley resembles hybrid peace.

We suggest that there is great potential for incorporating insights from this body of literature into environmental peacebuilding research. This will also shed light on how the "local scale" is actively engaged in environmental peacebuilding, for apolitical as well as political reasons.

Chapter IV
From corporate social responsibility to environmental peacebuilding: The case of bauxite mining in Guinea

Mining town of Sangarédi in the Region of Boké, May 2019

Environmental monitoring by a mining company near Sangarédi, May 2019

Dresse A, Nielsen JØ and Fischhendler I. (In review).

Resources Policy. Submitted in September 2020.

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Abstract
In the resource curse literature, resource abundance is portrayed as a threat to peace rather than an opportunity for socio-economic development. Moving away from natural resource competition and conflict, concepts like environmental peacebuilding as well as Corporate Social Responsibility (CSR) focus on win-win cooperation around social and environmental issues. While some overlaps exist between the environmental peacebuilding and CSR literature, as well as the related concept of Social License to Operate (SLO), little evidence exists for a potential role of the extractive sector in the environment-peace nexus. By examining the case of Guinea, which has the world's largest bauxite reserves, this article explores how and why bauxite mining companies implement CSR activities. It questions the incentives for mining companies to engage in socially and environmentally responsible CSR strategies, and to what extent corresponding activities contribute to peace. Besides reputation and funding, companies' desire to avoid business-threatening social unrest and their need to obtain a social license are found to feature prominently. These findings are used to discuss if and how the extractive sector, through its engagement with CSR and SLO, contributes to sustainable development and peace, and if by doing so mining companies are becoming actors of environmental peacebuilding.

1. Introduction

When combined with extreme poverty and resource dependence, high-value natural resources such as metals, minerals, gemstones, and fuels are broadly presented as conflict catalysts in the resource curse literature (Boutilier, 2017; Collier and Hoeffler, 1998; Ross, 2015). Mining lands are vested with an economic, but also a social and ecological value which, when combined with an unequal redistribution of the risks and profits associated with mining projects, can lead to violent protests by impacted communities (Bond, 2014a; Conde and Le Billon, 2017; Gardner, 2001). Environmental peacebuilding offers an alternative to the resource curse paradigm by exploring the process through which environmental resources and challenges are turned from conflict-irritants into opportunities for cooperation, sustainable development and peace (Conca, 2002; Matthew et al., 2009).

The environmental, social and/or institutional conflicts caused or worsened by mining activities can translate into a financial and reputational cost for private companies (Bavinck et al., 2014; Lujala et al., 2016). Since they are aware of this, private companies seek the acceptance of stakeholders such as local communities and authorities in order to obtain a so-called Social License to Operate (SLO) (Gehman et al., 2017). One way they do so is through Corporate Social Responsibility (CSR), which refers to going beyond their minimum obligations to mitigate the negative social and environmental impacts of mining (IFC, 2014). Through CSR and SLO, the extractive sector is increasingly involved in a rhetoric of development and peace, especially in the Global South (Bond, 2014a; Haman and Kapelus, 2004; Lund-Thomsen, 2005), often focusing on the use of, access to, restoration of, and cooperation around natural resources (Jenkins and Yakovleva, 2006).

This opens a discussion with the environmental peacebuilding literature and raises the question of whether private mining companies can be seen as engaging in environmental peacebuilding. Currently, the extractive sector and mining companies are rarely conceptualised as actors of environmental peacebuilding (Lujala and Rustad, 2012; Matthew et al., 2009). This can be explained by the fact that the private sector differs from the usual peacebuilding actors, such as governments, international and grassroots civil society organisations (Lederach, 1997). Another factor might be that their for-profit approach contrasts with that of more common peacebuilding actors (Campbell, 2012). Yet, while extraction is by nature unsustainable, our results illustrate that some mining companies have become more sensitive than others to environmental sustainability. For instance, these companies may choose to build infrastructures that are more respectful of the environment, develop environmental cooperation initiatives, create rural livelihoods, and fund biodiversity conservation projects.

To explore the potential role of private companies in environmental peacebuilding, we take a critical perspective on the means and motivations behind mining companies' CSR activities, with a focus on environmental initiatives. These initiatives are implemented first and foremost by mining companies as a way of maintaining a peaceful business environment, here understood as the absence of opposition to mining projects (Bond, 2014b; Issufu, 2016). Whether this market-based approach, which resembles liberal peace, can in fact succeed in achieving sustainable peace remains doubtful (de Soysa, 2002; Richmond, 2006; Selby, 2013). A key question in this regard is whether liberal peace can translate into positive peace, which requires a structural transformation to address the root-causes of violence (Bond, 2014a; Hamann and Kapelus, 2004). Unpacking this as well as the related question of whether or not companies are becoming actors of environmental peacebuilding, we contribute to the scarce

literature exploring the involvement and potential role of private actors, and mining companies in particular, in environmental peacebuilding (Bond, 2014b; Lujala and Rustad, 2012).

We use the case of bauxite mining in the West African Republic of Guinea. Contrary to neighbouring Sierra Leone and Liberia, peacebuilding is under researched in Guinea (e.g. Beevers, 2015; Brown et al., 2012; Le Billon and Levin, 2009). Unlike its neighbours, the resource-rich country has not been through a widespread civil war. However, Guinean society is riddled with violence, especially in the gold and bauxite mining areas that span the country (Bah, 2014). Based on mainly qualitative data collected by the first author through interviews and focus group discussions, we look at how bauxite mining companies active in the region of Boké attempt to mitigate their negative impacts and obtain a social license to operate through various CSR initiatives designed around environmental issues. We use these insights to discuss the main parallels and differences between environmental peacebuilding and CSR/SLO research in order to contribute theoretically and empirically to the questions of how, why, and with what potential mining companies can contribute to environmental peacebuilding in Guinea and elsewhere and, if so, whether such contribution can be defined as positive peace.

We begin by reviewing the environmental peacebuilding, CSR and SLO literatures, and define different approaches to peace. We then present the case study, methodology and key results on the linkages between mining, natural resources, conflict, and peace in the subsequent sections. Focusing on environmental CSR measures implemented by bauxite mining companies in Boké, the results of the case study present the perspectives of the private sector, public sector, and non-profit sector. Based on our findings, we discuss the potential role and interest of mining companies in environmental peacebuilding.

2. Natural resources: From competition to cooperation

Conflict risks increase in regions and countries where raw commodity exports constitute a high share of the GDP. This indicates a correlation between mining and violence (Collier et al., 2009). Natural resources are rarely the sole source of conflict but constitute so-called 'honey pots' that can sustain violence by fuelling competition, funding rebel groups, causing environmental degradation, and promoting corruption and bad governance (Boutilier, 2017; *Brown et al.*, 2012; de Soysa, 2002*)*. Conflicts over the perceived or actual unequal distribution of resources and profits are particularly widespread in depressed socio-economic contexts where the prospect of mining revenue encourages rent-seeking and weakens institutional capacities (Campbell, 2012; Conde and Le Billon, 2017; *Kemp et al., 2011)*. The large body of literature on the so-called resource curse illustrates this position (Collier and Hoeffler, 1998; de Soysa, 2002; Homer-Dixon, 1999).

The concept of environmental peacebuilding shifts the focus from an environment-conflict nexus to an environment-peace nexus. Environmental peacebuilding conceptualises shared natural resources and environmental challenges as entry points for cooperation and identity transformation that can foster interdependence and regional integration (Conca, 2002; Dresse et al., 2019; Ide, 2019; Lujala et al., 2016). This allows for peace dividends through mutually beneficial partnerships. Environmental peacebuilding initiatives can also come with potential negative effects on peace or the environment. For instance, the environmental and social standards set by the National Minerals Agency in post-conflict Sierra Leone favoured large-scale mining companies, which sparked disputes with small-scale miners (Ide, 2020).

Environmental peacebuilding encompasses a broad range of activities that can be categorised into four main pathways through which natural resources and environmental cooperation can contribute to peace: 1) technical fixes to counter environmental degradation, such as building wastewater treatment plants; 2) creating dialogue platforms and trust-building, for instance around issues related to climate change mitigation; 3) joint management of resources, such as peace parks and trans-frontier conservation areas; and 4) institutionalisation, one of the most relevant links between environmental cooperation and peace which for instance takes place via the establishment of commissions and agreements to manage shared river basins (Carius, 2006; Dresse et al., 2019; Ide, 2019).

CSR refers to a set of self-regulating practices that are adopted by private companies as a part of their business model and through which they can engage with social and environmental development (Bond, 2014b; Lujala et al., 2016). Activities implemented as part of a company's CSR strategy (hereinafter CSR activities) can contribute to sustainable development by providing impacted communities with, for example, infrastructures, livelihoods and climate change adaptation and mitigation measures (Bachmann and Schouten, 2008; Campbell, 2012; Jenkins and Yakovleva, 2006). For mining companies, the adoption of these activities is closely related to establishing legitimacy and fostering an environment that is conducive to business by redistributing profits, decreasing risks, and avoiding violent conflict in the short and long term (Campbell, 2012). As such, CSR initiatives are one of the tools that enable mining companies to obtain a Social License to Operate (SLO) (Prno and Slocombe, 2012). For example, in relation to a mining project the concept of SLO refers to the approval and continuous acceptance of the project by the stakeholders involved – approval that can be withdrawn at any time (Gehman et al., 2017; Boutilier and Thomson, 2011). SLO contrasts with the license given to private companies by the state, which is a legally binding contract in contrast to SLO which is predominantly based on trust between stakeholders (Boege and Franks, 2012). SLO encompasses a broad stakeholder basis that includes impacted communities, civil society organisations and representatives, state actors, and market-based actors such as international financial institutions (Boutilier and Thomson, 2011).

Through CSR and SLO, private actors such as mining companies increasingly play a role in fragile post-conflict contexts where they fund social and environmental development projects (Campbell, 2012). If we consider that the activities of mining companies are centred on natural resources and also entail a high environmental impact, environmental sustainability and peace are closely intertwined in the context of natural resource exploitation. As such, the activities that form part of private companies' CSR strategy contribute to obtaining and maintaining a social license resemble environmental peacebuilding. This is because they aim to reduce environmental degradation caused by mining, but also use the environment as an entry point for trust-building and dialogue with other companies, authorities, and communities. Despite this, the role of the private sector in environmental peacebuilding as well as conceptual linkages between environmental peacebuilding and the concepts of CSR and SLO is underexplored (Bond, 2014b; Brown et al., 2012; Lujala et al., 2016). This gap can be explained by the fact that environmental peacebuilding research and the CSR/SLO literature tend to focus on different aspects. While the CSR and SLO literatures focus on business-oriented approaches often at the intrastate level, the environmental peacebuilding literature mainly focuses on the non-profit sector and interstate peacebuilding (Conca, 2002; Dresse et al., 2019; Lujala et al., 2016). Businesses also tend to implement CSR activities as part of a conflict prevention or de-

escalation strategy, whereas the bulk of the environmental peacebuilding literature focuses on post-conflict settings (Mueller-Hirth, 2017).

The concepts of CSR and SLO thus differ from the resource curse and competition, as they focus on a redistribution of risks and profits of mining, as well as building dialogue and trust between all stakeholders. This rhetoric resembles the one found in environmental peacebuilding research, which aims at turning environmental challenges such as resource scarcity or abundance from conflict-irritant to an entry point for cooperation and peacebuilding. The main conceptual overlaps and differences between the resource curse, CSR, SLO and environmental literature are illustrated in Figure IV-1 below.

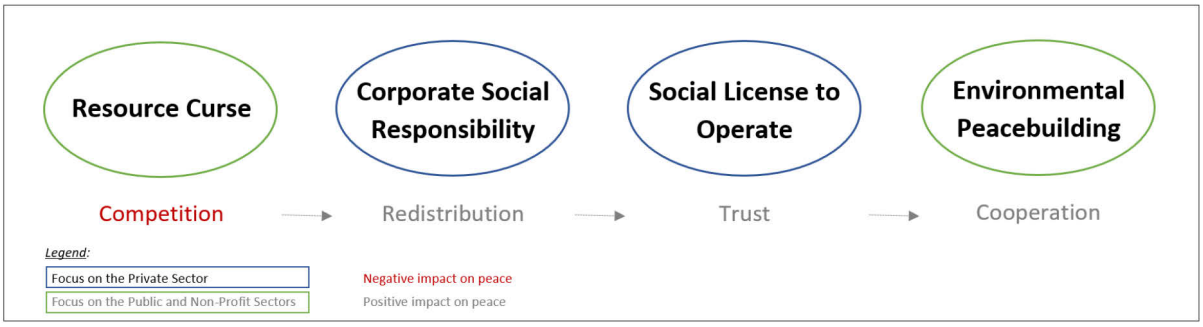


Figure IV-1: From environmental competition to cooperation and peacebuilding

The way that peace is understood in these literatures constitutes another difference between concepts focusing on the private sector such as CSR and SLO, and environmental peacebuilding research. To answer the question of if and how mining companies' CSR activities constitute forms of environmental peacebuilding, an understanding of the differences and similarities between types of peace is necessary (Mueller-Hirth, 2017). While negative peace might be sufficient for private companies to obtain a social license and conduct uninterrupted business for the duration of their mining contract, environmental peacebuilding initiatives tend to reach beyond this to achieve social integration through environmental cooperation or so-called positive peace (Ide, 2019). Besides, private companies have in some cases been observed to benefit from social inequity and dysfunctional institutions, highlighting another potential difference between private and peacebuilding actors (Campbell, 2012; Ross et al., 2012; Wiig and Kolstad, 2012).

As such, it is unclear to what extent companies can be said to be engaging in peacebuilding (Bond, 2014b). Nevertheless, environmental peacebuilding and CSR/SLO share several common features as they both envision mutually beneficial or 'win–win' approaches to social and environmental challenges as a path to peace. These approaches are often centred on technical fixes such as infrastructure projects, but also dialogue and trust building (Bachmann and Schouten, 2008; Campbell, 2012). For instance, mining companies consult with local communities and authorities to develop more participatory approaches to natural resource management (Gehman et al., 2017; Owen and Kemp, 2013). In doing so, companies often present an opportunity for communities to negotiate better socio-economic conditions than those they have with their government (Boutilier and Thomson, 2011). Environmental

assessments are another common example of the potential positive impact of the extractive sector for both negative but also positive peace (*Brown et al., 2012)*. These potential similarities will be further explored in the case of bauxite mining in Guinea.

3. Bauxite mining in Guinea

With 40 million tons exported in 2019, and a total potential of 40 billion tons, Guinea holds the world's largest reserve of bauxite ore (Bauxite Index, 2019; Knierzinger, 2017; ITIE Guinée, 2019). Bauxite, the main component of which is alumina, serves to produce aluminium. It is strip-mined from the midland plateau and transported through the prefectures of Boké, Télimélé, Gaoual, Fria and Kindia, to reach the Guinean littoral (Knierzinger, 2017).

In the aftermath of independence in 1958, Guinea went through nearly three decades of a socialist regime under President Sékou Touré. Following Touré's death in 1984, Colonel Lansana Conté's regime took over by military coup and ruled until his passing in 2008. After two years of junta rule, President Alpha Condé was elected in 2010 (Bah, 2014). The next year, much delayed reforms were included in a new mining code that was adopted in 2011. This was further revised in 2013 to lower taxes and custom fees imposed on companies (République de Guinée, 2011; 2013). These events prompted the country's extractive sector to expand considerably during the following decade (Bah, 2014).

In Guinea, the extractive sector contributes 33% of the state revenue (ITIE, 2019). With regards to bauxite mining, the largest contributors are a Guinean company that started extraction in 1973, a Chinese-led international consortium that was founded in 2014, and a subsidiary from an Emirati group, which started extraction in 2018 (INSUCO, 2018; ITIE, 2019). In addition, smaller projects with shareholders from a wide range of countries (e.g. France, China, India, and Russia) are active in the region. In total, over a dozen bauxite extraction projects are active in and around Boké and many more projects are under development. Several projects receive direct funding from the International Finance Corporation (IFC), the World Bank's private sector arm (IFC, 2012). Companies funded by the IFC are obliged to respect its Performance Standards on Environmental and Social Sustainability in project areas covered by IFC funding (INSUCO, 2018). According to national legislation, all extractive projects in Guinea also require a preliminary environmental and social impacts assessment and environmental and social management plan to mitigate or compensate their potential negative impacts (République de Guinée, 2011).

Despite the central role of the extractive sector in the Guinean economy, little economic profit resulting from bauxite mining trickles down to the Guinean population (Bah, 2014; HRW, 2018). This can be partially explained by the country's limited institutional capacities, which are characterised by a weak normative and regulatory framework (Campbell, 2012; Bond, 2014b). Indeed, many application decrees and laws planned in the 2013 Mining Code are still under development or have not been fully implemented (Bah, 2014; INSUCO, 2018). Article 130 of the Mining Code, for instance, foresees the creation of a Local Economic Development Fund (FODEL), through which bauxite mining companies are expected to contribute 0.5% of their annual turnover to mining municipalities (République de Guinée, 2017a). The FODEL was launched end of 2018 in Boké and is pending in other regions. Most companies are also expected to redistribute 15% of their profits to all prefectures through a National Fund for Local Development (FNDL), which is yet to be rolled out (République de Guinée, 2017b). As a result

of this lack of a redistribution mechanism, the socio-political and economic situation is tense, especially in mining areas where impacted communities bear the highest social and environmental cost of mining (HRW, 2018). These costs mainly include polluted air, water, and soil (Gardner, 2001).

4. Methodology

To study the links between environmental degradation, mining, and conflicts, on one side, and environmental cooperation activities in bauxitic areas and peace, on the other, we reviewed secondary data available in public documents from mining companies (République de Guinée, 2020), reports by international organisations (e.g. ITIE, 2019; HRW, 2018; INSUCO, 2018), and the national legislative framework. The environmental and social impact studies of mining projects were also given special attention according to their relevance regarding CSR activities in Boké.

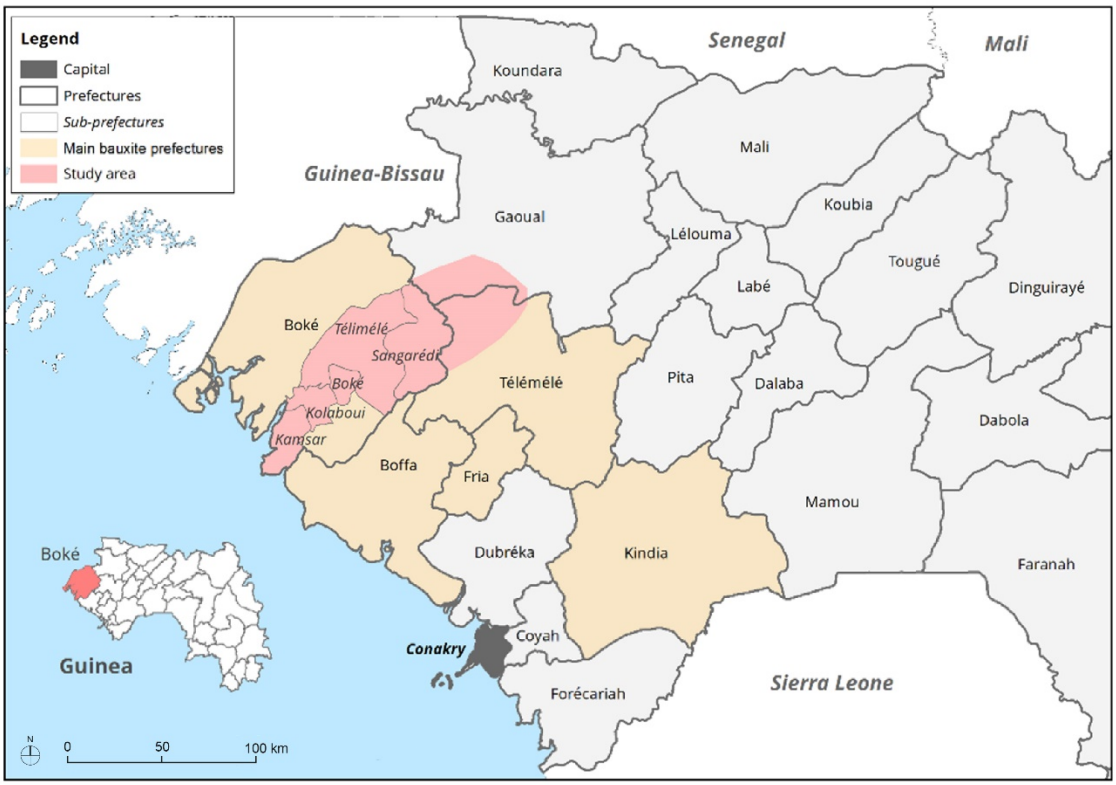
Primary data was collected via fieldwork conducted between March, 2018 and June, 2019. The main methods used were interviews and participant observation. In total, 24 semi-structured interviews and 9 unstructured interviews were conducted with key stakeholders in the capital, Conakry, and in the cities of Boké, Sangarédi, and Tanéné. Interviews were conducted with a proportional share of representatives of the private sector (mining company representatives and contractors), the public sector (national and regional authorities in charge of mining and environmental issues), the international community (multilateral and bilateral donor agencies), and civil society (local and international non-governmental organisations).

Questions asked focused on the environmental and social impacts of mining, corporate social responsibility and the importance and understanding of peace for interviewees. The interviews took an average of one hour and a half and were conducted and transcribed in French. Coding focused on negative and positive company–community relations and their perceptions by interviewees from different sectors, with a focus on their respective understanding of key notions such as peace, trust, and sustainability.

Two focus group interviews with around 20 participants each from the impacted villages of M'Bouroré, N'Dantafogné, Cogon-Lengué and Cogon-Lounbadjodho were also conducted. Participants were selected due to their involvement in a claim against a mining project (CAO, 2018). Key questions explored in the focus group interviews were the impact of mining activities on and the role of environmental issues in daily life, and the way in which communities communicated these challenges to companies and the authorities who could address them. Following these focus groups, a transectional walk along the dried-up water wells around the village of Hamdallaye, near Sangarédi, was conducted in order to observe the issues raised during the interviews. Other complimentary methods used included participant observation in villages around Boké and taking part in two policy and coordination meetings on mining (Bryman, 2012; Gerring, 2006). A field visit to the premises and environmental projects of one of the main mining companies was also conducted. The study area and the main bauxite mining sites in Boké and its surroundings are illustrated on Map IV-1 below.

Besides providing varied data, this mixed methodological approach was used in order to deal with the potential biases and sensitivities associated with doing research in the context of mining (Gerring, 2006). Such biases can result, for instance, in impacted communities over-

representing problems as well as companies understating negative impacts. The need to triangulate data obtained via one method with that of other methods was thus a key driver of the way we conducted fieldwork for this study (Gerring, 2006).



Map IV-1: The study area in the Boké bauxite belt (Own map based on Nandi, 2017)

5. Results: Conflicts, CSR initiatives, and social peace

Most interviewees connected the increasing number of incidents in which local communities opposed bauxite mining projects with the multiplication of companies in the region of Boké. Mining roads, but also water and soil pollution, were presented as particularly conflict-prone (Interviews 8, 11 and 18 – Non-Profit Sector). In 2017, the killing of a Boké resident by a mining truck caused riots and roadblocks. Demonstrations against dust pollution and the depletion of water sources due to mining took place the same year in Sangarédi (Interviews 16 – Public Sector). The lack of access to basic services such as electricity and water was another main cause of violent protests and roadblocks in the urban centres of Boké and Sangarédi, as well as Tanéné, Kolaboui and Kamsar (SfCG, 2017). This failure to provide basic services was considered unfair in light of the wealth taken from the land by mining companies. According to representatives of the public authorities, forced relocations and land confiscations were other frequent sources of tension between impacted communities and mining companies (Interviews 5 and 21 – Public Sector). This was confirmed by representatives of local non-governmental organisations (NGOs), who noted that the absence of official land titles for many individuals, as well as the collective ownership of lands, complicated the issue (Interviews 13 and 19 –

Non-Profit Sector). Resettlement was found to stir social conflicts by disrupting the social organisation within villages (Focus Groups). Additionally, compensation for forced relocation – whether in-kind or financial – was not harmonised between companies (Interview 2 – Private Sector). This caused inequalities between impacted communities in different locations, as well as perceived unfairness by contiguous communities who were not compensated by mining companies (Field Visit and Interview 7 – Non-Profit Sector). One-time payments were also seen as insufficient to cover the loss of yearly agricultural income. In the case of the surroundings of Hamdallaye, near Sangarédi, inadequate compensation was a main source of the conflict.

Concern about limited employment opportunities for local youth in the mining sector was another important source of frustration among local communities, as companies were often unable to absorb much of the local, mostly unskilled, work force (Interviews 3, 14 and 17 – Private Sector). According to the Guinean Local Content Policy (République de Guinée, 2017c), the population of Boké mistakenly believed that they should be favoured over Guineans from other regions (Interviews 5 and 12 – Public Sector). This did not occur and massive in-country migration to Boké increased the pressure on jobs and scarce resources, further stirring protests and roadblocks (Focus Groups 1 and 2). Dissatisfaction over the lack of employment was closely related to a wider issue of miscommunication between companies, authorities, and impacted communities, which resulted in misunderstandings regarding the roles and responsibilities of each actor (Interviews 8 and 19 – Non-Profit Sector). This led inhabitants of impacted villages to have unrealistic expectations of mining companies as well as to feel excluded from decision-making processes. It also indicated a lack of legitimacy and trust in mining companies as well as local authorities (Focus Groups 1 and 2).

Over the past decade, over a dozen companies have begun extracting bauxite, mainly in the region of Boké. By 2017, Guinea exported over 50 million tons of bauxite annually (ITIE, 2019). The social, environmental, and political effects of mining have been worsened by the cumulative impact of highly concentrated and rapidly growing mining projects within the area. Conflicts constitute a financial and reputational risk for all companies regardless of their individual performance. According to mining companies' representatives, such conflicts delay mining activities and often result in multimillion-dollar losses (Interviews 3 and 14 – Private Sector). Companies therefore try to solve problems quickly, often going beyond their minimum contractual obligations towards impacted communities under the national legislation. Interviewees from the private sector explained that, in light of the above-mentioned conflicts, there was a need to obtain a 'social license' through initiatives including CSR activities. The representative of a mining company explained what was meant by a social license, which is also sometimes referred to by companies and their partners as 'social peace': "The real license is given to you by the communities. You can get a license from the government, but if local relationships get bad, work is not sustainable. We saw Zokota. A social license to operate is better" (Interview 17 – Private Sector). The representative of a financial institution echoed this, explaining CSR as "a win–win risk mitigation measure: "It is economically justified for a mining company to incur this expense, rather than to suffer the consequences" (Interview 17 – Private Sector). "You have to buy peace, in fact this is a social license", a public-sector employee confirmed (Interview 5 – Public Sector).

One of the easiest ways for mining companies to obtain the social license that makes their operations run more smoothly is to contribute visibly to community development through CSR

(Interview 6 – Non-Profit Sector). The construction of infrastructures such as roads, bridges, and water drills constituted a main effort in this regard. This was done, for example, by funding community investments such as roads, health centres and schools through a project aimed at strengthening the local governance of mining royalties in Boké and Boffa (AGREM, implemented by the United Nations Capital Development Fund (UNCDF)) (Interview 6 – Non-Profit Sector).

Besides infrastructure, another type of CSR activity implemented by mining companies was the creation of alternative livelihoods. This was done to counter the loss of subsistence agriculture due to mining and to provide employment for local populations that were left out of the mining sector. Mining companies for instance created market gardening groups for women and hired labourers to revegetate areas around the mining town of Sangarédi where extraction was complete (Interviews 14, 15 and 17 – Private Sector). Another company hired local residents to work in plant nurseries that were established by the companies. These were paid for by the company as part of their conservation efforts to enable local plant species to be replanted by people after extraction. The same company also supported biodiversity preservation by training local people as 'ecologists' who alerted the company's environmental manager in case an animal was found in need of assistance (Interview 3 – Private Sector). For instance, the rescue of a western chimpanzee and its baby, considered endangered by the International Union for Conservation of Nature (IUCN), was witnessed during a field visit with a mining representative. The focus on environmental activities is clear and, according to the environmental manager of one of the largest companies active in the region, mixing livelihood options and environmental restoration was seen as "a guarantee of peace" (Interview 3 – Private Sector).

Establishing 'social peace' was also closely related to funding. Being approved, affiliated and/or funded by the International Finance Corporation (IFC) is critical for mining companies' ability to secure investments. This requires mining companies to adhere to the IFC's Environmental and Social Performance Standards. CSR activities can help to achieve this adherence. Indeed, mining companies operating under the auspices of the IFC were consistently found to operate with higher social and environmental standards than others (Interviews 3 and 14 – Private Sector). Unlike state institutions, the IFC also provided monitoring and control systems that measured mining activities' social and environmental impacts in Boké (Interviews 2 and 17 – Private Sector). Local communities, however, made little distinction between companies and retaliated against them indiscriminately (Focus Group 1). This constituted a financial and reputational risk for all companies regardless of their individual performance and was a clear motivation for IFC funded companies to get the whole sector more engaged in CSR activities (Interviews 3 and 14 – Private Sector). IFC funded companies therefore pushed less environmentally sensitive companies to perform better.

Inter-company cooperation was another measure encouraged by the IFC, as well as public authorities and international agencies. This was especially the case in limiting the environmental footprint of bauxite extraction, which is carried out mainly inland, and is transported to the coastal areas (Interview 18 – Non-Profit Sector). Since 2018, six bauxite mining companies operating under the auspices of the Guinean Mining Chamber institutionalised their cooperation by creating the 'Bauxite Environment Network' (Réseau Environnement Bauxite, REB). The environmental managers from participating companies meet on a regular basis to organise awareness-raising events and conservation activities, such

as tree-planting campaigns, plans to protect the marine environment and awareness-raising campaigns about issues such as climate change (Field Visit and Interview 20 – Public Sector). Another example of inter-company environmental cooperation stimulated by the IFC was the establishment of the Moyen-Bafing National Park, which is located in the northern region of Labé. Created in 2017 by the Guinean Ministry of Environment's Office of Parks and Reserves and the Wild Chimpanzee Foundation (WCF), and with funding from two IFC-affiliated mining companies, this park constitutes an offset chimpanzee preservation strategy to compensate for the loss of around 5,000 western chimpanzees as a result of extraction activities in Boké (Interview 19 – Non-Profit Sector).

As the park project illustrates, international and local NGOs such as Guinée Ecologie supported mining companies with the development of CSR activities that focused on environmental cooperation and enabled 'social peace'. International agencies also played a key role, such as UNCDF through the AGREM project and the World Bank's governance support project in the mining sector (PAGSEM). The German development agency (GIZ) together with the United Nations Development Programme (UNDP) supported the Ministry of Mining with the establishment and development of peacebuilding committees in mining areas (Comité de Concertation dans les Localités Minières – CCLM). Between 2010 and 2017, 91 such committees were established throughout the country (Camara, 2018). These committees were supposed to function as a communication platform between local populations, authorities and mining companies and thus deal with some of the problems with communication and local participation. Members of these committees were equipped and trained in conflict management in order to be able to report on potential issues. However, the low literacy level, voluntary basis, and lack of follow-up of these committees meant that they contributed very little to peacebuilding (Interviews 1, 7 and 11 – Non-Profit Sector). The Ministry of Mines and Geology and its partners were trying to address this problem at the time of fieldwork.

As such, private mining companies engaged in a variety of CSR initiatives that addressed the complaints and concerns of villagers affected by their activities. Yet, many interviewees felt that the costs of mining were still higher than the benefits brought by companies and their CSR activities. Disparities in mining-profit sharing, environmental degradation despite compensation and restoration programs, and political tensions were highlighted as reasons for this (Interviews 6 and 11 – Non-Profit Sector). The lack of effective national mechanisms to monitor the implementation of international and national regulations, coupled with the lack of governmental sanction mechanisms in case of non-compliance, were also seen as major limitations to the success of such initiatives (Interviews 8 and 18 – Non-Profit Sector). A representative of the public sector confirmed that even compulsory measures such as land rehabilitation were not always fully implemented due to rent-seeking and a lack of enforcement (Interview 24 – Public Sector). Moreover, most mining companies were found to pay little consideration to the way in which infrastructures are built and, as a result, impacted communities felt that they not sufficiently consulted on such initiatives. This is illustrated, for example, by the case of water wells that stopped functioning shortly after their installation (Focus Group 2). In short, CSR initiatives did not bring about the expected socio-economic developments needed or desired by local populations, and both direct and structural violence related to mining persist in and around Boké. To counter this, local and international NGOs such as Human Rights Watch (HRW) provided support for impacted communities to defend their rights in a non-violent way against mining companies and authorities (Interviews 9, 13,

18 and 19 – Non-Profit Sector). This was illustrated by the joint complaint filed by 13 villages against the International Finance Corporation (IFC). Having been negatively impacted by an IFC-funded mining project, 540 villagers were represented by the American NGO Inclusive Development International (IDI), together with two local NGOs (CECIDE and ADREMGUI), in an official complaint to the World Bank's Compliance Advisor Ombudsman (CAO, 2018).

6. Discussion: Mining companies as peacebuilders?

This study finds that a substantial part of the mining industry is willing to engage with local communities and authorities to address the social and environmental challenges caused by mining. This is especially true of companies that depend on international funding sources such as the IFC. Mining companies are well aware of their potential role as catalysts for conflict, as well as the need for a stable socio-political and natural environment to enable profit-making (Bond, 2014b; Lujala et al., 2016). Therefore, mining companies engage directly with impacted communities to obtain a social license to operate, or 'social peace' as it was called by interviewees in the field. Moreover, our results show that some companies set high standards and engage in voluntary CSR partly for funding purposes and partly due to the need for social peace. This point is also mentioned in other case studies (Lund-Thomsen, 2005). By doing so, these companies actually support the development of environmental practices and frameworks among their peers and public authorities, to the potential benefit of impacted populations and their environment. The international community plays a central role in accompanying the companies, communities, and the state in undertaking these measures. This is exemplified by the Moyen-Bafing National Park and the CCLM committees.

Such initiatives blur the boundaries between CSR, SLO and environmental peacebuilding and raise the question of whether mining companies can be seen as actors in environmental peacebuilding. This question remains underexplored in the peacebuilding literature (e.g. Bond, 2014b; Lujala and Rustad, 2012). One of the reasons for this is the focus on high-value natural resources such as metals, minerals, and gemstones, as a conflict catalyst rather than a source of cooperation in the so-called resource curse literature (Boutilier, 2017; Collier and Hoeffler, 1998; Ross, 2015). Indeed, our results support this approach as the mining activities in Boké were the cause of many of the conflicts described. Another reason for which the potential linkages between CSR, SLO and environmental peacebuilding remain underexplored is that the private sector differs from the usual peacebuilding actors, such as governments, international and grassroots civil society organisations (Lederach, 1997). The issue here is that such actors tend to have different motivations regarding peace. CSR initiatives are in general, and in our case study, market-driven and viewed as a way to obtain a 'social license' to operate, thereby decreasing risks of resistance to mining projects (Bond, 2014b). This for-profit approach to peace differs from positive peace, which requires a structural transformation to address the root-causes of violence. The possibility of transforming the former into the latter remains unclear in the literature (de Soysa, 2002; Hamann and Kapelus, 2004). Our results show that many conflicts are unresolved in Boké. In order to do this, the structural causes of conflicts such as poverty, unemployment and unequal distribution of mining risks and profits would need to be addressed. This requires a move towards the understanding of positive peace embedded in the environmental peacebuilding literature (Bond, 2014a; Ide, 2019). To realise the full potential of the extractive sector as a peacebuilding actor, there is thus a need to move

beyond for-profit CSR and SLO approaches, and sustainable development and peace as a mere narrative.

A certain lack of attention to the extractive sector as potential partners in peacebuilding processes on these grounds – as fair as this might be with regards to their inherently negative environmental impact – might however constitute a missed opportunity. Private companies and international financial institutions can play potentially important roles in achieving the pre-conditions for positive peace. Indeed, such actors often have more leverage than NGOs and international organisation and can convince governments to adopt best practices, albeit in a financially motivated manner (Campbell, 2012). The more responsible companies in Boké were also frustrated by the reputational risk caused by the actions of lower-performing companies. To counter this, they sought inter-company cooperation on social and environmental issues, as shown, for example, by the creation of the Bauxite Environment Network. If acting responsibly, as opposed to just appearing to act responsibly, is shown to be good for business, mining companies, as rational for-profit actors, are thus likely to increasingly engage in such activities. The different understandings of peace that exist between the companies and peacebuilding actors might in this way be negated. While negative peace as the absence of direct violence might initially be enough for private actors to conduct their business, our results illustrate that this does not in the long run meet the aim of fostering a conducive business environment, since conflicts do not fully stop. By striving instead to move towards trust-building and improved resource management systems, many of these company practices thus closely resemble practices that are addressed in the environmental peacebuilding literature.

None of the companies explicitly referred to environmental peacebuilding or insight from this literature concerning the potential role of environmental cooperation as a resource for social peace (Conca, 2002; Matthew et al., 2009; Dresse et al., 2019). Yet the natural environment was the focus of many CSR activities that were initiated by the companies. Indeed, the combination of livelihood activities and the environment was seen by mining companies as a 'guarantee for peace', especially in the rural areas surrounding their mining sites. This combination was seen in various restoration and conservation projects, such as gardening projects, plant nurseries, the training of village ecologists, and tree-planting. The creation of the Bauxite Environment Network and an offset chimpanzee park (the Moyen-Bafing National Park) are other examples of the prominent role of the environment in initiatives set up by bauxite mining companies.

Going back to the four pathways identified in the environmental peacebuilding literature (Carius, 2006; Dresse et al., 2019; Ide, 2019), many of the CSR initiatives described in our results follow a similar pattern. Technical fixes to counter environmental degradation, such as building infrastructure like roads, bridges, and water wells, were carried out alongside the creation of dialogue platforms, for instance, in the Bauxite Environment Network. Jointly managing resources, such as gardens and land left by mining, was supported by trying to establish a better institutional setup for governing the process of mining and including local actors, NGOs, public authorities, and international players such as United Nations agencies, the World Bank, and GIZ, among others.

These insights pave the way to conceptualising private companies as potential agents of environmental peacebuilding. If insights from the environmental peacebuilding literature were

added to the CSR and SLO literature, proactive companies might be further nudged towards programs resembling the practices embedded in environmental peacebuilding projects, including a more substantial emphasis on positive peace. Indeed, the extractive sector clearly sees the benefit of cooperating around natural resources. Harnessing insights on the connection between CSR, SLO and environmental peacebuilding seems, in light of our results, a fruitful exercise as the field of environmental peacebuilding moves forward. A better integration of private companies and their initiatives into peacebuilding might also enable us to develop and maintain more efficient and better monitoring and sanctioning systems than those currently in place. Our results clearly illustrate that this has been lacking in Boké but is necessary for ensuring accountability, transparency and avoiding 'greenwashing' (Hamann and Kapelus, 2004; Hilson, 2012).

7. Conclusion

This paper examined the interlinkages between mining, conflict, and peace in the context of intrastate mining conflicts in Guinea in order to expand our understanding of the connection between CSR, SLO and environmental peacebuilding. While mining companies are primarily concerned with profit, they are also social agents in the local contexts in which they evolve. This context includes direct impact as well as CSR initiatives aimed at mitigating these impacts. The CSR initiatives observed in Boké focused heavily on the natural environment, how this should be restored and preserved, and, through this process, how local employment could be created. Cooperation around the natural environment was thus a key feature of most mining CSR activities.

Although not always successful, these activities encompassed technical solutions, dialogue platforms, the joint management of resources, and institution building following the four main pillars of how to implement environmental peacebuilding. A close connection between CSR activities and environmental peacebuilding is thus observed. As we move forward with the concept of environmental peacebuilding, our results illustrate that embedding private actors more closely might push them towards a heavier engagement with positive peace. This is needed as liberal peace is unlikely to solve the deep-rooted conflicts associated with resource extraction.

Chapter V
Synthesis

Retired teacher pointing towards the Green Line near Battir, February 2017

5.1. Conclusion

The aim of this dissertation is to develop a better understanding of how and why people resort to environmental cooperation over conflict, and whether this contributes to peacebuilding. After an introductive chapter, the second chapter gave an overview of the environmental peacebuilding literature and outlined the trajectories through which environmental cooperation in its different forms could contribute to peace. After that, I focused on real-world cases in two different contexts: a case of protracted conflict and peacebuilding in the cultural-natural landscape of Battir, and a case of mining conflict and environmental cooperation in the bauxite mining area of Boké. Exploring how environmental peacebuilding unrolls in different natural and human environments highlighted the role of various stakeholder groups, such as local communities and private companies, in addition to more well-known peacebuilding actors such as states, but also non-profit and international organisations.

Both cases were set in the context of low-intensity, latent and structural violence that were marked by high power disparities between local communities on one side, and public or private actors on the other. Examining environmental peacebuilding in such contexts reveals the complexity of restoring collective trust through dialogue and everyday interaction. In both cases, trust built through cooperation remained limited to interpersonal trust, mainly among direct participants in environmental initiatives, but failed to snowball to the wider community, let alone spill over to a higher scale or other sectors. In some situations, it even resulted in mistrust and conflicting views among members of these communities, who disagreed about such cooperation. While it is clear that the biophysical environment is not just a source of conflict, evidence remains inconclusive as to what extent environmental peacebuilding contributes to establishing sustainable peace in such contexts.

The presented cases also highlighted the heterogeneity of actors engaged in environmental peacebuilding at different scales. The actors' differing understandings of environmental peacebuilding are not just related to the conceptual ambiguity dealt with in Chapter II, but also relate to the fact that stakeholders involved in environmental peacebuilding initiatives have different social values, norms, and interests. They are embedded in pre-existing relationships that shape how environmental peacebuilding is perceived and approached. Although the term 'environmental peacebuilding' was not necessarily used, the observed practices closely resembled one or more of the mechanisms and pathways pointed out in Chapter II, such as technocratic approaches to shared environmental problems or the use of the environment as a platform for dialogue. However, more durable trajectories such as joint resource management and institutionalisation failed to materialise in most cases. The fact that insights on how environmental peacebuilding unfolds, as well as on its potential barriers and opportunities, can be provided by shifting focus from top-down approaches to how such initiatives are built and perceived from the bottom up was also shown in the two case studies presented.

This enriches environmental peacebuilding research, especially if, as pointed out in Chapter III, the concept of hybrid peace is better integrated. The notion of hybridity between international and local approaches to environmental peacebuilding reinvests power and agency at the local level. This is especially important since both case studies showed that, for local communities, natural resources were a key source of livelihoods, but also a constitutive part of their identity. The way individuals who are at the centre of environmental peacebuilding initiatives perceive the biophysical environment, cooperation and peacebuilding is thus affected by their relation to their surrounding environment. This is key to further developing

our knowledge of environmental peacebuilding and move away from conceiving the local as an empty space of activity and decision-making (Aggestam, 2015; Mac Ginty, 2015).

Both case studies also highlighted that, despite the emphasis on a low-politics approach to shared environmental resources such as water, and challenges such as climate change, socio-political dimensions were ever present in Battir and Boké. In fact, seemingly neutral issues around which environmental cooperation was conceived as an entry point for peace were designed depending on the objectives of those conceiving such strategies and their understanding varied among different stakeholder groups (i.e. local communities, governments, non-profit organisations or the private sector). In Battir, for instance, the same environment was depoliticised in transboundary efforts through the work of EcoPeace Middle East and in front of the Israeli Supreme Court, while at the same time similar issues were highly politicised at the international level through the UNESCO nomination process. The intertwinement of local, regional, and international actors and organisations in environmental peacebuilding processes can thus lead to competing narratives and agendas being formulated around a same natural and human environment, as both low and high politics. This shows that conceptualising environmental peacebuilding in desecuritised terms and focusing on win-win arrangements might miss fundamental aspects of the processes and initiatives observed and analysed, including the motivations of local people who engage in them and why they might eventually succeed or fail.

While it makes sense to try and articulate mutually beneficial arrangements as win-win solutions, portraying shared environmental issues as an ‘easy’ entry-point for cooperation is thus a simplification of often complex conflict and post-conflict contexts (Ide, 2020). If highlighting prospects of a peace dividend constitutes an incentive for dialogue and cooperation, environmental peacebuilding can only contribute to sustainable peace if these interactions are transformed into more equitable habits of cooperation and are eventually institutionalised. As the literature moves forward, the key dilemma between low and high politics in on-the-ground environmental peacebuilding initiatives needs to be better understood.

Other findings included linkages to other literatures and concepts, such as corporate social responsibility and the role of the private sector in either sustaining or deescalating conflicts. Yet causal linkages remain difficult to trace when considering the long timespan needed to eliminate all forms of violence and the many elements at play in such processes. These aspects constitute some of the limits of case-study research and cross-case comparisons. Nevertheless, parallels can be drawn between different cases such as those presented in this dissertation, which support the existence of an environment-peace nexus and develop our understanding of how environmental peacebuilding plays out, whether conceived as top-down or bottom-up and framed as low or high politics.

5.2. Pathways for future research

The concept of environmental peacebuilding has gained momentum over the last decade, yet its potential remains untapped as the linkages between environmental cooperation and sustainable peace have not yet been fully demonstrated empirically.

The focus on a nexus of environment-peace by international agencies dates back to the 1990s. Most environmental peacebuilding initiatives are therefore relatively recent, and evidence is largely anecdotal and inconclusive. The same goes for the academic literature on this phenomenon. It is only over the last decade that a more substantial body of literature on this topic has emerged (e.g. Ide et al, 2021; Swain and Öjendal, 2018). As mentioned, a lot of this literature has focused on conceptual understandings of environmental peacebuilding as low politics in interstate, post-conflict contexts rather than on understanding various standpoints on environmental peacebuilding initiatives (Johnson et al., 2021). As a result, we know very little about the possible spillovers from environmental cooperation across sectors and scales in practice, and no consensus exists on the conditions under which environmental peacebuilding can be successful (Ide, 2020). Case studies focusing on bottom-up and intrastate environmental peacebuilding – as presented in this dissertation – can narrow down what constitutes a shared environment and peace in different contexts (Conca and Beevers, 2018; Ide et al., 2021; Johnson et al., 2021).

The multiple dimensions of the environment, conflict and peace complicate the development of a comprehensive and systematic framework for conceptualising environmental peacebuilding. Establishing causal linkages between cooperation around a shared environment and peacebuilding risks ignoring the complex socio-political contexts in which such initiatives often play out (Ide, 2020). While empirical evidence of whether and how environmental peacebuilding works is needed, human-environment connections are notoriously hard to disentangle and hoping for clear causal relations might be too ambitious. One way to make sense of the multiplicity of contexts, meanings and values embedded in environmental peacebuilding might be to focus more on the role of local communities as agents of everyday peace, as well as the private sector. While data on issues such as water-sharing agreements concluded between governments can provide a more accessible basis for analysis, they offer limited insights into how such cooperation is implemented in practice. Centring research on other actors involved in such activities and their perceptions and motivations will move the focus towards the human-environment nexus in which environmental peacebuilding unfolds, potentially enabling better causal explanations between a shared biophysical environment and peacebuilding.

Structural violence, such as that endured during occupation or resource exploitation, has also received relatively little attention in the environmental peacebuilding literature (Bond, 2014; Kuntz, 2019). Moving towards a more comprehensive approach to peace would be useful for capturing the long-term impact of environmental peacebuilding and its various mechanisms, but also its limitations (Ide, 2020). Other fields such as political ecology, hydropolitics and institutional economics also need to be better integrated into environmental peacebuilding research in order to advance knowledge of why and how environmental cooperation in its various forms can contribute to sustainable peace.

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Appendixes

Appendix 1: Examples of environmental peacebuilding initiatives in the Middle East

Title of the initiative	Organisations involved	Geographical scope	Start year	Themes
Good Water Neighbours (GWN)	EcoPeace Middle East	Israel, Palestine, Jordan	2001	Water
Rainwater Harvesting in Environmental Education and Peacebuilding Projects	Water Resources Action Project	Israel, Palestine	2009	Water, Education
Promoting Israeli Palestinian cross border cooperation in nature conservation and eco-tourism	Hanns-Seidel-Stiftung; Palestinian Wildlife Society; Society for the Protection of Nature in Israel	Israel, Palestine	2014	Conservation
Peace and environmental partnership project	Arava Institute for Environmental Studies	Israel, Palestine, Jordan	2005	Education
Red Sea-Dead Sea Water Conveyance Study Program	World Bank	Israel, Palestine, Jordan	2007	Water
Promoting Peace Building through Cross Boundary Waste Water Management	United Nations Development Programme	Israel, Palestine	2009	Wastewater

Appendix 2: Questionnaires

2.1. Household questionnaire (Battir)

0.1. Participant(s)	
0.2. Date and time	
0.3. Duration	
0.4. Place	
0.5. Language	English – Arabic – French
0.6. Sex of interviewee	Male – Female

Main questions	Follow-up questions
1. General information	
1.1. Could you introduce yourself?	Age, sex, household members, education level
1.2. Where are you from?	Are you from Battir, from which family? Where do you live now?
1.3. What is your main profession?	Do you also work in other areas (e.g. agriculture, tourism)?
1.4. Do you have any other sources of income and if yes, which ones?	
1.5. Where do you work?	If Israel/Settlement, how do you go there?
1.6. Does your family own land/terraces, where?	How many parcels? Are parts of them beyond the Green Line?
1.7. If yes, how many times a week do you go on the other side of the Green Line?	Do you go to farm your land or for other reasons?
2. Specific information	
2.1. What are, according to you, the main natural resources in Battir?	e.g. Water, Land, Animals, Plants
2.2. What are the main environmental challenges you face?	e.g. Sewage, Sanitation, Floods, Droughts, Climate change, Conflicts
2.3. Does the conflict affect the environment/natural resources?	If so, how?
2.4. Do you know the Rhodes Agreement?	Did this agreement affect Battir, and you, and if so, please describe how?
2.5. Do you think it is important to protect the train?	If so, how and why?
2.6. What would have been the effect of the wall on you and Battir if it were not stopped?	
2.7. What (or who) do you think stopped it?	Do you think the environment played an important role in this?
2.8. Did you get the support of NGOs or individuals during the case against the wall?	If so, who supported you? Where were these organisations from? How did this help or not?
2.9. If yes, did you interact directly with them?	How was this dialogue/interaction?

	Describe the trust level before/after?
2.10. Do you know that Battir is a UNESCO World Heritage Site?	If so, what is your opinion about it? Who worked to achieve it and is the situation better or worse since then?
2.11. Do you know about the Battir 2020 initiative?	If so, what is your opinion about it? Who was involved, were you?
2.12. What do you think about tourism in the region?	Risks/opportunities
2.13. Do you meet foreigners (also Israelis) in Battir, and when you go on your land beyond the Green Line?	If so, who do you meet the most, and how are these interactions?
2.14. Did you participate in any other environmental cooperation initiative in Battir or elsewhere?	If so, which one and what did you think of it?
2.15. How would you define peace?	Please explain

2.2. Focus group questionnaire (Battir)

0.1. Date and time	
0.2. Place	
0.3. Participants	

Main questions	Follow-up questions
1. Please introduce yourself.	Age, sex, household, education
2. What is your occupation?	Do you also work in other areas (e.g. agriculture, tourism)?
3. What are, according to you, the main natural resources in Battir?	e.g. Water, Land, Animals, Plants
4. What are key environmental challenges in Battir?	e.g. Sewage, Sanitation, Floods, Droughts, Climate change, Conflicts
5. Does the conflict affect your main source of livelihood?	If so, how? Can you give examples?
6. Does the conflict affect natural resources in Battir?	If so, how? Can you give examples?
7. Where you involved in the Court case against the wall?	If so, how and with whom?
8. What key elements were decisive in winning this court case according to you?	Were you involved in the court case?
9. Did you get external support for this, and if so, from whom?	Did this stimulate dialogue or trust to evolve between parties?
10. What do you think about the fact that Battir became a UNESCO World Heritage Site?	Were you involved? Is the situation better or worse since then?
11. What do you think about tourism in the region?	Are you involved in touristic activities?
12. What do you think about transboundary environmental cooperation initiatives in the region?	Did you already witness or participate in one? And if so, how was it?
13. How would you define peace?	Please explain what it represents for you

2.3. Thematic questions for public and non-profit actors (Conakry/Boké)

0.1. Participant(s)	
0.2. Date et heure	
0.3. Durée	
0.4. Lieu	
0.5. Langue	Anglais – Français
0.6. Sexe de l'interviewé	Homme – Femme

1. Environnement
1.1. Pouvez-vous donner le contexte et l'historique des activités minières en Guinée et décrire votre rôle, en particulier dans le cas de l'exploitation de bauxite dans la région de Boké ?
1.2. Quelle importance ont l'environnement, les ressources naturelles et à la mitigation des impacts de l'extraction minière sur l'environnement dans vos activités ?
1.3. Pouvez-vous lister et caractériser les thématiques environnementales dans lesquelles vous vous sentez impliqués et expliquer quel est votre rôle ?
1.4. Quelles sont les valeurs attribuées à l'environnement et aux ressources naturelles dans la zone de Boké ? Hormis leur dimension écologique, jouent-elle un rôle culturel ou identitaire pour les communautés locales ?
1.5. Ces liens entre l'humain et l'environnement biologique jouent-ils un rôle dans les conflits miniers et leur résolution selon vous ?
1.6. Toujours selon vous, une activité minière durable (sustainable) est-elle par définition possible et si oui sous quelles conditions cela pourrait-il être le cas en Guinée ?
2. Peacebuilding
2.1. Quelle importance à la paix pour vos activités, les activités des sociétés minières en général, et comment la définissez-vous ?
2.2. Quels sont les liens entre environnement, coopération, stabilité et paix selon vous ?
2.3. Quelles sont selon vous les conditions des bonnes relations entre les sociétés minières et les communautés locales en Guinée, et quel rôle la société civile et les autorités centrales et décentralisées jouent-elles ?
2.4. Existe-il des intérêts communs et des possibilités de dialogue autour des ressources naturelles et de l'environnement par rapport à d'autres secteurs, et si oui pourquoi ?
2.5. Quels types d'actions sont entrepris dans ce sens a votre connaissance et pour quelles raisons ?
2.6. Pouvez-vous donner des exemples de coopération autour des ressources naturelles impliquant les communautés, les sociétés, les autorités et/ou la société civile à Boké et leur résultat ? La politique de responsabilité sociale des entreprises joue-t'elle un rôle dans ces initiatives ?
2.7. Comment abordez-vous l'asymétrie entre les communautés locales, les autorités et les compagnies minières ? Une coopération est-elle possible malgré ces différences ?
2.8. Quel est le rôle de la bonne gouvernance dans cela, y compris l'application des textes de los et leur connaissance par les communautés locales ? Pouvez-vous donner des exemples de politiques allant dans ce sens ?
2.9. Quels sont d'après vous les principaux obstacles à la résolution des conflits miniers ? (ex. Conflits, Environnement, Compagnies, Autorités/gouvernance, Moyens locaux, Connaissances, Infrastructures)

2.4. Questions for mining compagnies (Conakry/Boké)

0.1. Participant(s)	
0.2. Date et time	
0.3. Duration	
0.4. Place	
0.5. Language	English – French
0.6. Sex of interviewee	Male – Female

1. **Since when is the company/project active?**
a. From which country/countries of origin is the company/project?
b. Where are you active in Guinea, and since when?
c. What is the scope of your activities in the Boké region?
d. Nature of the activities
e. Partners and funding sources (own, SFI, other)
2. What are the social impacts of these activities? (positive and negative)
a. Type of staff (e.g. local, Guinean from elsewhere, international) and impact in terms of social tensions with communities as related to their understanding of the local content policy?
b. What is your company's position in terms of Corporate Social Responsibility?
c. Are there any negative social and/or environmental impacts of your presence? Why and how do they affect your work and how to you mitigate them?
3. What are the main environmental impacts of mining activities?
a. Pollution or air (dust) or water sources
b. Access limitations due to roads, fences, etc.
c. Biodiversity loss
d. Human impact due to population relocation, loss of livelihoods, sacred sites etc.
4. How do you mitigate these? (please explain)
a. Local recruitment and alternative livelihoods creation
b. Contribution to development through taxes and voluntary contributions
c. Technical fixes such as the construction of infrastructures
d. Financial compensation of communities
e. Dialogue and cooperation with communities, authorities, and other communities
5. Are peaceful relations with local communities important for your business and why (not)?
6. Is environmental restoration/compensation important to maintain a peaceful business environment and why (not)?
7. Are you engaged in any environmental cooperation and/or peacebuilding activities (If so, why and with whom are these activities designed and implemented?)
8. Environmental cooperation and/or peacebuilding activities (If so, why and with whom are these activities designed and implemented?)
9. What are the biggest obstacles and how do you deal with these, can you give examples?
a. Governance and politics
b. National and international legal frameworks
c. Social tensions and conflicts (demonstrations, etc.)
d. Lack of qualifications/understanding

e. Lack of adequate infrastructure
f. Other (explain)

2.5. Focus group questionnaire (Boké)

0.1. Date et heure	
0.2. Lieu	
0.3. Participants	

1. Pouvez-vous présenter les principales activités de subsistance pratiquées par les habitants de votre village ?
2. Quelles sont les principales sources de conflits dans votre village s'il y en a ?
3. Les activités minières dans la zone ont-elles un impact environnemental néfaste sur votre vie quotidienne, et si oui pouvez-vous détailler cela et donner des exemples ?
4. L'impact environnemental des mines contribue-t-il d'après vous aux conflits dans la zone, et si oui pourquoi ?
5. Quels obstacles rencontrez-vous dans le cadre de vos activités quotidiennes ? (Veuillez détaillez)
6. Y a-t-il des activités liées à la mitigation des conflits et la protection de l'environnement dans lesquelles vous êtes impliqués ou dont vous avez connaissance dans la zone ? Si oui, quels en sont les acteurs clés ?
7. Les activités minières peuvent-elles contribuer au développement et à la paix d'après-vous, et si oui sous quelles conditions ?
8. Quelles sont les initiatives de coopération environnementale ou de peacebuilding financées par les sociétés minières ou d'autres acteurs s'il y en a, et pouvez-vous donner quelques exemples ?
9. Y a-t-il des différences entre la manière dont les différentes compagnies minières satisfont leurs obligations sociales et environnementales et sont perçues par les communautés. D'après-vous, comment peut-on expliquer ces disparités et quel est l'intérêt ou la motivation pour ces acteurs privés de s'impliquer dans des activités sociales/environnementales ?
10. Quels sont d'après-vous les principaux obstacles à ce que les activités extractives deviennent une source de développement et de paix plutôt qu'une cause de conflit dans votre zone d'habitation ?

Hiermit erkläre ich, dass ich diese Dissertation selbständig und nur unter Verwendung der von mir gemäß § 7 Abs. 3 der Promotionsordnung der Mathematisch-Naturwissenschaftlichen Fakultät, veröffentlicht im Amtlichen Mitteilungsblatt der Humboldt-Universität zu Berlin Nr. 42 am 11. Juli 2018, angegebenen Hilfen und Hilfsmittel angefertigt habe. Ich habe mich nicht anderwärts um einen Doktorgrad in dem Promotionsfach beworben und besitze keinen entsprechenden Doktorgrad. Die in dieser Dissertation geäußerten Ansichten sind ausschließlich jene der Autorin bzw. der Koautoren.

Berlin, 11. April 2021

Anaïs Deborah Dalbai

Ich erkläre, dass die von mir in der Universitätsbibliothek abgegebene schriftliche und elektronische Version der Dissertationsschrift mit der angenommenen Dissertation übereinstimmt und nur kleine Rechtschreibkorrekturen enthält.

Berlin, 14. Juni 2021

Anaïs Deborah Dalbai